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 October 31, 2019 or

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

For the transition period from ______ to _______

Commission File Number: 001-04604

HEICO CORPORATION

(Exact name of registrant as specified in its charter)

Florida	**65-0341002**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3000 Taft Street, Hollywood, Florida	**33021**
(Address of principal executive offices)	(Zip Code)

(954) 987-4000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $.01 par value per share	**HEI**	**New York Stock Exchange**
Class A Common Stock, $.01 par value per share	**HEI.A**	**New York Stock Exchange**

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 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 check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was $11,866,123,000 based on the closing price of HEICO Common Stock and Class A Common Stock as of April 30, 2019 as reported by the New York Stock Exchange.

The number of shares outstanding of each of the registrant's classes of common stock as of December 17, 2019 is as follows:

Common Stock, $.01 par value	54,142,746	shares
Class A Common Stock, $.01 par value	80,359,982	shares

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the 2020 Annual Meeting of Shareholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

HEICO CORPORATION
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FOR THE FISCAL YEAR ENDED OCTOBER 31, 2019

PART I

Item 1. *BUSINESS*

The Company

HEICO Corporation through its subsidiaries (collectively, "HEICO," "we," "us," "our" or the "Company") believes it is the world's largest manufacturer of Federal Aviation Administration ("FAA")-approved jet engine and aircraft component replacement parts, other than the original equipment manufacturers ("OEMs") and their subcontractors. HEICO also believes it is a leading manufacturer of various types of electronic equipment for the aviation, defense, space, medical, telecommunications and electronics industries.

The Company was originally organized in 1957 as a holding company known as HEICO Corporation. As part of a reorganization completed in 1993, the original holding company (formerly known as HEICO Corporation) was renamed as HEICO Aerospace Corporation and a new holding corporation known as HEICO Corporation was created. The reorganization did not result in any change in the business of the Company, its consolidated assets or liabilities or the relative interests of its shareholders.

Our business is comprised of two operating segments:

The Flight Support Group. Our Flight Support Group ("FSG"), consisting of HEICO Aerospace Holdings Corp. and HEICO Flight Support Corp. and their collective subsidiaries, accounted for 60%, 62% and 63% of our net sales in fiscal 2019, 2018 and 2017, respectively. The Flight Support Group uses proprietary technology to design and manufacture jet engine and aircraft component replacement parts for sale at lower prices than those manufactured by OEMs. These parts are approved by the FAA and are the functional equivalent of parts sold by OEMs. In addition, the Flight Support Group repairs, overhauls and distributes jet engine and aircraft components, avionics and instruments for domestic and foreign commercial air carriers and aircraft repair companies as well as military and business aircraft operators; and manufactures thermal insulation products, complex composite assemblies, and other component parts primarily for aerospace, defense, industrial and commercial applications.

The Electronic Technologies Group. Our Electronic Technologies Group ("ETG"), consisting of HEICO Electronic Technologies Corp. and its subsidiaries, accounted for 40%, 38% and 37% of our net sales in fiscal 2019, 2018 and 2017, respectively. The Electronic Technologies Group derived approximately 64%, 65% and 64% of its net sales in fiscal 2019, 2018 and 2017, respectively, from the sale of products and services to United States ("U.S.") and foreign military agencies, prime defense contractors and both commercial and defense satellite and spacecraft manufacturers. The ETG designs, manufactures and sells various types of electronic, data and microwave, and electro-optical products, including infrared simulation and test equipment, laser rangefinder receivers, electrical power supplies, back-up power supplies, power conversion products, underwater locator beacons, emergency locator transmission beacons, electromagnetic and radio frequency interference shielding, high power capacitor charging power supplies, amplifiers, traveling wave tube amplifiers, photodetectors, amplifier modules, microwave power modules, flash lamp drivers, laser diode drivers, arc lamp power supplies, custom power supply designs, cable assemblies, high voltage power supplies, high voltage interconnection devices and wire, high voltage energy generators, high frequency power delivery systems, three-dimensional microelectronic and stacked memory products, harsh environment electronic connectors and other interconnect products, radio frequency ("RF") and microwave amplifiers, transmitters and receivers; RF sources, detectors and controllers, wireless cabin control systems, solid state power distribution and management systems, crashworthy and ballistically self-sealing auxiliary fuel systems, nuclear radiation detectors, communications and electronic intercept receivers and tuners, fuel level sensing systems, high-speed interface products that link devices such as telemetry receivers, digital cameras, high resolution scanners, simulation systems and test systems to almost any computer; high performance active antenna systems for commercial aircraft, precision guided munitions, other defense applications and commercial uses; silicone material for a variety of demanding applications; precision power analog monolithic, hybrid and open frame components; high-reliability ceramic-to-metal feedthroughs and connectors, and technical surveillance countermeasures equipment to detect devices used for espionage and information theft.

HEICO has continuously operated in the aerospace industry for over 60 years. Since assuming control in 1990, our current management has achieved significant sales and profit growth through a broadened line of product offerings, an expanded customer base, increased research and development expenditures and the completion of a number of acquisitions. As a result of internal growth and acquisitions, our net sales from continuing operations have grown from $26.2 million in fiscal 1990 to $2,055.6 million in fiscal 2019, representing a compound annual growth rate of approximately 16%. During the same period, we improved our net income from $2.0 million to $327.9 million, representing a compound annual growth rate of approximately 19%.

Disciplined Acquisition Strategy

Acquisitions have been an important element of our growth strategy over the past twenty-nine years, supplementing our organic growth. Since 1990, we have completed approximately 77 acquisitions complementing the niche segments of the aviation, defense, space, medical, telecommunications and electronics industries in which we operate. We typically target acquisition opportunities that allow us to broaden our product offerings, services and technologies while expanding our customer base and geographic presence. Even though we have historically pursued an active acquisition policy, our disciplined acquisition strategy involves limiting acquisition candidates to businesses that we believe will continue to grow, offer strong cash flow and earnings potential, and are available at fair prices. See Note 2, Acquisitions, of the Notes to Consolidated Financial Statements for further information regarding our recent acquisitions.

Flight Support Group

The Flight Support Group serves a broad spectrum of the aviation industry, including (i) commercial airlines and air cargo carriers; (ii) repair and overhaul facilities; (iii) OEMs; and (iv) U.S. and foreign governments.

The Flight Support Group competes with the leading industry OEMs and, to a lesser extent, with a number of smaller, independent parts distributors. Historically, the three principal jet engine OEMs, General Electric (including CFM International), Pratt & Whitney and Rolls Royce, have been the sole source of substantially all jet engine replacement parts for their jet engines. Other OEMs have been the sole source of replacement parts for their aircraft component parts. While we believe that we currently supply approximately 2% of the market for jet engine and aircraft component replacement parts, we have in recent years been adding new products to our line at a rate of approximately 300 to 500 Parts Manufacturer Approvals ("PMA" or "PMAs") per year. We have developed for our customers approximately 11,200 parts for which PMAs have been received from the FAA.

Jet engine and aircraft component replacement parts can be categorized by their ongoing ability to be repaired and returned to service. The general categories in which we participate are as follows: (i) rotable; (ii) repairable; and (iii) expendable. A rotable is a part which is removed periodically as dictated by an operator's maintenance procedures or on an as needed basis and is typically repaired or overhauled and re-used an indefinite number of times. An important subset of rotables is "life limited" parts. A life limited rotable has a designated number of allowable flight hours and/or cycles (one take-off and landing generally constitutes one cycle) after which it is rendered unusable. A repairable is similar to a rotable except that it can only be repaired a limited number of times before it must be discarded. An expendable is generally a part which is used and not thereafter repaired for further use.

Jet engine and aircraft component replacement parts are classified within the industry as (i) factory-new; (ii) new surplus; (iii) overhauled; (iv) repairable; and (v) as removed. A factory-new or new surplus part is one that has never been installed or used. Factory-new parts are purchased from FAA-approved manufacturers (such as HEICO or OEMs) or their authorized distributors. New surplus parts are purchased from excess stock of airlines, repair facilities or other redistributors. An overhauled part is one that has been completely repaired and inspected by a licensed repair facility such as ours. An aircraft spare part is classified as "repairable" if it can be repaired by a licensed repair facility under applicable regulations. A part may also be classified as "repairable" if it can be removed by the operator from an aircraft or jet engine while operating under an approved maintenance program and is airworthy and meets any manufacturer or time and cycle restrictions applicable to the part. A "factory-new," "new surplus" or "overhauled" part designation indicates that the part can be immediately utilized on an aircraft. A part in "as removed" or "repairable" condition requires inspection and possibly functional testing, repair or overhaul by a licensed facility prior to being returned to service in an aircraft.

Factory-New Jet Engine and Aircraft Component Replacement Parts. The Flight Support Group engages in the research and development, design, manufacture and sale of FAA-approved replacement parts that are sold to domestic and foreign commercial air carriers and aircraft repair and overhaul companies. Our principal competitors are aircraft engine and aircraft component manufacturers. The Flight Support Group's factory-new replacement parts include various jet engine and aircraft component replacement parts. A key element of our growth strategy is the continued design and development of an increasing number of PMA replacement parts in order to further penetrate our existing customer base and obtain new customers. We select the jet engine and aircraft component replacement parts to design and manufacture through a selection process which analyzes industry information to determine which replacement parts are suitable candidates.

Repair and Overhaul Services. The Flight Support Group provides repair and overhaul services on selected jet engine and aircraft component parts, as well as on avionics, instruments, composites and flight surfaces of commercial aircraft operated by domestic and foreign commercial airlines. The Flight Support Group also provides repair and overhaul services including avionics and navigation systems as well as subcomponents and other instruments utilized on military aircraft operated by the U.S. government and foreign military agencies and for aircraft repair and overhaul companies. Our repair and overhaul operations require a high level of expertise, advanced technology and sophisticated equipment. Services include the repair, refurbishment and overhaul of numerous accessories and parts mounted on gas turbine engines and airframes. Components overhauled include fuel pumps, generators, fuel controls, pneumatic valves, starters and actuators, turbo compressors and constant speed drives, hydraulic pumps, valves and actuators, wheels and brakes, composite flight controls, electro-mechanical equipment, auxiliary power unit accessories and thrust reverse actuation systems. Some of the repair and overhaul services provided by the Flight Support Group are proprietary repairs approved by an FAA-qualified designated engineering representative ("DER") and/or by the owner/operator. Such proprietary repairs typically create cost savings or provide engineering flexibility. The Flight Support Group also provides commercial airlines, regional operators, asset management companies and Maintenance, Repair and Overhaul ("MRO") providers with high quality and cost effective niche accessory component exchange services as an alternative to OEMs' spares services.

Distribution. The Flight Support Group distributes FAA-approved parts including hydraulic, pneumatic, structural, interconnect, mechanical and electro-mechanical components for the commercial, regional and general aviation markets. The Flight Support Group also is a leading supplier, distributor, and integrator of military aircraft parts and support services primarily to foreign military organizations allied with the U.S. Further, we believe the Flight Support Group is a leading provider of products and services necessary to maintain up-to-date F-16 fighter aircraft operational capabilities.

Manufacture of Specialty Aircraft/Defense Related Parts and Subcontracting for OEMs. The Flight Support Group engineers, designs and manufactures thermal insulation blankets and parts as well as renewable/reusable insulation systems primarily for aerospace, defense, commercial and industrial applications. The Flight Support Group also manufactures specialty components for sale as a subcontractor for aerospace and industrial original equipment manufacturers and the U.S. government. Additionally, the Flight Support Group manufactures advanced niche components and complex composite assemblies for commercial aviation, defense and space applications, and manufactures expanded foil mesh, which is integrated into composite aerospace structures for lightning strike protection in fixed and rotary wing aircraft.

FAA Approvals and Product Design. Non-OEM manufacturers of jet engine and aircraft component replacement parts must receive a PMA from the FAA to sell the replacement part. The PMA approval process includes the submission of sample parts, drawings and testing data to one of the FAA's Aircraft Certification Offices where the submitted data are analyzed. We believe that an applicant's ability to successfully complete the PMA process is limited by several factors, including (i) the agency's confidence level in the applicant; (ii) the complexity of the part; (iii) the volume of PMAs being filed; and (iv) the resources available to the FAA. We also believe that companies such as HEICO that have demonstrated their advanced design engineering and manufacturing capabilities, including an established favorable track record with the FAA, generally receive a faster turnaround time in the processing of PMA applications. Finally, we believe that the PMA process creates a significant barrier to entry in this market niche through both its technical demands and its limits on the rate at which competitors can bring products to market.

As part of our growth strategy, we have continued to increase our research and development activities. Research and development expenditures by the Flight Support Group, which were approximately $.3 million in fiscal 1991, increased to approximately $23.8 million in fiscal 2019, $21.3 million in fiscal 2018 and $17.9 million in fiscal 2017. We believe that our Flight Support Group's research and development capabilities are a significant component of our historical success and an integral part of our growth strategy. In recent years, the FAA granted us PMAs for approximately 300 to 500 new parts and we develop approximately 300 to 400 new proprietary repairs per year; however, no assurance can be given that the FAA will continue to grant PMAs or DER-approved repairs or that we will achieve acceptable levels of net sales and gross profits on such parts or repairs in the future.

We benefit from our proprietary rights relating to certain design, engineering and manufacturing processes and repair and overhaul procedures. Customers often rely on us to provide initial and additional components, as well as to redesign, re-engineer, replace or repair and provide overhaul services on such aircraft components at every stage of their useful lives. In addition, for some products, our unique manufacturing capabilities are required by the customer's specifications or designs, thereby necessitating reliance on us for production of such designed products.

We have no material patents for the proprietary techniques, including software and manufacturing expertise, we have developed to manufacture jet engine and aircraft component replacement parts and instead, we primarily rely on trade secret protection. Although our proprietary techniques and software and manufacturing expertise are subject to misappropriation or obsolescence, we believe that we take appropriate measures to prevent misappropriation or obsolescence from occurring by developing new techniques and improving existing methods and processes, which we will continue on an ongoing basis as dictated by the technological needs of our business.

We believe that, based on our competitive pricing, reputation for high quality, short lead time requirements, strong relationships with domestic and foreign commercial air carriers and repair stations (companies that overhaul aircraft engines and/or components), and successful track record of receiving PMAs and repair approvals from the FAA and commercial air carriers, we are uniquely positioned to continue to increase the products and services offered and gain market share.

Electronic Technologies Group

Our Electronic Technologies Group's strategy is to design and manufacture highly-engineered, mission-critical subcomponents that must successfully operate in the harshest environments, for smaller, niche markets, but which are utilized in larger systems – systems like power, targeting, tracking, identification, simulation, testing, communications, lighting, surgical, medical imaging, baggage scanning, telecom and computer systems. These systems are, in turn, often located on another platform, such as aircraft, rotorcraft, satellites, ships, spacecraft, land vehicles, handheld devices and other platforms.

Electro-Optical Infrared Simulation and Test Equipment. The ETG is a designer and manufacturer of niche state-of-the-art simulation, testing and calibration equipment used in the development of missile seeking technology, airborne targeting and reconnaissance systems, shipboard targeting and reconnaissance systems, space-based sensors as well as ground vehicle-based systems. These products include infrared scene projector equipment, such as our MIRAGE IR Scene Simulator, high precision blackbody sources, software and integrated calibration systems.

Simulation equipment allows the U.S. government and allied foreign military to save money on missile testing as it allows infrared-based missiles to be tested on a multi-axis, rotating table instead of requiring the launch of a complete missile. In addition, several large military prime contractors have elected to purchase such equipment from us instead of maintaining internal staff to do so because we can offer a more cost-effective solution. Our customers include major U.S. Department of Defense weapons laboratories and defense prime contractors.

Electro-Optical Laser Products. The ETG is a designer and maker of Laser Rangefinder Receivers and other photodetectors used in airborne, vehicular and handheld targeting systems manufactured by major prime military contractors. Most of our Rangefinder Receiver product offering consists of complex and patented products which detect reflected light from laser targeting systems and allow the systems to confirm target accuracy and calculate target distances prior to discharging a weapon system. Some of these products are also used in laser eye surgery systems for tracking ocular movement.

Electro-Optical, Microwave and Other Power Equipment. The ETG produces power supplies, amplifiers and flash lamp drivers used in laser systems for military, medical and other applications that are sometimes utilized with our rangefinder receivers. We also produce emergency back-up power supplies and batteries used on commercial aircraft and business jets for services such as emergency exit lighting, emergency fuel shut-off, power door assists, cockpit voice recorders and flight computers. We also design and manufacture next generation wireless cabin control systems, solid state power distribution and management systems and fuel level sensing systems for business jets and for general aviation, as well as for the military/defense market. We offer custom or standard designs that solve challenging OEM requirements and meet stringent safety and emissions requirements. Our power electronics products include capacitor charger power supplies, laser diode drivers, arc lamp power supplies and custom power supply designs.

Our microwave products are used in both commercial and military satellites, spacecraft and in electronic warfare systems. These products, which include isolators, bias tees, circulators, latching ferrite switches and waveguide adapters, are used in satellites and spacecraft to control or direct energy according to operator needs. As satellites are frequently used as sensors for stand-off warfare, we believe this product line further supports our goal of increasing our activity in the stand-off market. Additionally, our microwave products include converters, receivers, transmitters, amplifiers, frequency sources and related sub-systems that address the majority of major satellite frequencies. We believe we are a leading supplier of the niche products which we design and manufacture for this market, a market that includes commercial satellites. Our customers for these products include satellite and spacecraft manufacturers.

Electromagnetic and Radio Interference Shielding. The ETG designs and manufactures shielding used to prevent electromagnetic energy and radio frequencies from interfering with other devices, such as computers, telecommunication devices, avionics, weapons systems and other electronic equipment. Our products include a patented line of shielding applied directly to circuit boards and a line of gasket-type shielding applied to computers and other electronic equipment. Our customers consist essentially of medical, electronics, telecommunications and defense equipment producers.

High-Speed Interface Products. The ETG designs and manufactures advanced high-technology, high-speed interface products utilized in homeland security, defense, medical research, astronomical and other applications across numerous industries.

High Voltage Interconnection Devices. The ETG designs and manufactures high and very high voltage interconnection devices, cable assemblies and wire for the medical equipment, defense and other industrial markets. Among others, our products are utilized in aircraft missile defense, fighter pilot helmet displays, avionic systems, medical applications, wireless communications, and industrial applications including high voltage test equipment and underwater monitoring systems.

High Voltage Advanced Power Electronics. The ETG designs and manufactures a patented line of high voltage energy generators for medical, baggage inspection and industrial imaging systems. We also produce high voltage power supplies found in satellite communications, CT scanners and in medical and industrial x-ray systems.

Power Conversion Products. The ETG designs and provides innovative power conversion products principally serving the high-reliability military, space and commercial avionics end-markets. These high density, low profile and lightweight DC-to-DC converters and electromagnetic interference filters, which include thick film hermetically sealed hybrids, military commercial-off-the-shelf and custom designed and assembled products, have become the primary specified components of their kind on a generation of complex military, space and avionics equipment.

Underwater Locator Beacons and Emergency Locator Transmission Beacons. The ETG designs and manufactures Underwater Locator Beacons ("ULBs") used to locate aircraft Cockpit Voice Recorders and Flight Data Recorders, marine ship Voyage Recorders and various other devices which have been submerged under water. ULBs are required equipment on all U.S. FAA and European Aviation Safety Agency ("EASA") approved Flight Data and Cockpit Voice Recorders used in aircraft and on similar systems utilized on large marine shipping vessels. The ETG also designs and manufactures Emergency Locator Transmission Beacons for the commercial aviation and defense markets. Upon activation, these safety-critical devices transmit a distress signal to alert search and rescue operations of the aircraft's location.

Traveling Wave Tube Amplifiers ("TWTAs") and Microwave Power Modules ("MPMs"). The ETG designs and manufactures TWTAs and MPMs predominately used in radar, electronic warfare, on-board jamming and countermeasure systems in aircraft, ships and detection platforms deployed by U.S. and allied non-U.S. military forces.

Three-Dimensional Microelectronic and Stacked Memory Products. The ETG designs, manufactures and markets three-dimensional microelectronic and stacked memory products including memories, Point of Load ("POL") voltage converters and peripherals, industrial memories, and complex System-in-Package ("SiP") solutions. The products' patented designs provide high reliability memory and circuitry in a unique and stacked form which saves space and weight. These products are principally integrated into larger subsystems equipping satellites and spacecraft and are also utilized in medical equipment.

Harsh Environment Connectivity Products and Custom Molded Cable Assemblies. The ETG designs and manufactures high performance, high reliability and harsh environment electronic connectors and other interconnect products. These products include connectors, jacks and plugs, cables, patch panels and switches utilized in aviation, broadcast/audio, defense, industrial, medical and other equipment.

RF and Microwave Amplifiers, Transmitters and Receivers. The ETG designs and manufactures RF and microwave amplifiers, transmitters and receivers to support military communications on unmanned aerial systems, other aircraft, helicopters and ground-based data/ communications systems.

High Performance Communications and Electronic Intercept Receivers and Tuners. The ETG designs and manufactures innovative, high performance receiver and radio frequency digitizer products for military and intelligence applications.

Crashworthy and Ballistically Self-Sealing Auxiliary Fuel Systems. The ETG designs and manufactures mission-extending, crashworthy and ballistically self-sealing auxiliary fuel systems for military rotorcraft.

High Performance Active Antenna Systems. The ETG designs and produces high performance active antenna systems for commercial aircraft, precision guided munitions, other defense applications and commercial uses.

Nuclear Radiation Detectors. The ETG designs and manufactures highly sensitive, reliable and easy-to-use nuclear radiation detectors for law enforcement, homeland security and military applications.

Specialty Silicone Products. The ETG designs and manufactures silicone material for a variety of demanding applications used in aerospace, defense, research, oil and gas, testing, pharmaceuticals and other markets.

High-End Power Amplifiers. The ETG designs and manufactures precision power analog monolithic, hybrid and open frame components for a certain wide range of defense, industrial, measurement, medical and test applications.

High-Reliability Ceramic-to-Metal Feedthroughs and Connectors. The ETG designs and manufactures high-reliability ceramic-to-metal feedthroughs and connectors for demanding environments within the industrial, life science, medical, research, semiconductor, and other markets.

Technical Surveillance Countermeasures Equipment. The ETG designs and manufactures Technical Surveillance Countermeasures ("TSCM") equipment to detect devices used for espionage and information theft serving government agencies, law enforcement, corporate security personnel and TSCM professionals worldwide.

High-end Radio Frequency Receivers and Sources. The ETG designs and manufactures RF Sources, Detectors and Controllers for a certain wide range of aerospace and defense applications.

As part of our growth strategy, we have continued to invest in our research and development activities. Research and development expenditures by the Electronic Technologies Group were $42.8 million in fiscal 2019, $36.2 million in fiscal 2018 and $28.6 million in fiscal 2017. We believe that our Electronic Technologies Group’s research and development capabilities are a significant component of our historical success and an integral part of our growth strategy.

Distribution, Sales, Marketing and Customers

Each of our operating segments independently conducts distribution, sales and marketing efforts directed at their respective customers and industries and, in some cases, collaborates with other operating divisions and subsidiaries within its group for cross-marketing efforts. Sales and marketing efforts are conducted primarily by in-house personnel and, to a lesser extent, by independent manufacturers' representatives. Generally, our in-house sales personnel receive a base salary plus commissions and manufacturers' representatives receive a commission based on sales.

We believe that direct relationships are crucial to establishing and maintaining a strong customer base and, accordingly, our senior management is actively involved in our marketing activities, particularly with established customers. We are also a member of various trade and business organizations related to the commercial aviation industry, such as the Aerospace Industries Association, which we refer to as AIA, the leading trade association representing the nation's manufacturers of commercial, military and business aircraft, aircraft engines and related components and equipment. Due in large part to our established industry presence, we enjoy strong customer relations, name recognition and repeat business.

We sell our products to a broad customer base consisting of domestic and foreign commercial and cargo airlines, repair and overhaul facilities, other aftermarket suppliers of aircraft engine and airframe materials, OEMs, domestic and foreign military units, electronic manufacturing services companies, manufacturers for the defense industry as well as medical, telecommunications, scientific, and industrial companies. No one customer accounted for sales of 10% or more of total consolidated sales from continuing operations during any of the last three fiscal years. Net sales to our five largest customers accounted for approximately 20%, 20% and 18% of total net sales in fiscal 2019, 2018 and 2017, respectively.

Competition

The aerospace product and service industry is characterized by intense competition. Some of our competitors have substantially greater name recognition, inventories, complementary product and service offerings, financial, marketing and other resources than we do. As a result, such competitors may be able to respond more quickly to customer requirements than we can. Moreover, smaller competitors may be in a position to offer more attractive pricing as a result of lower labor costs and other factors.

Our jet engine and aircraft component replacement parts business competes primarily with aircraft engine and aircraft component OEMs. The competition is principally based on price and service to the extent that our parts are interchangeable. With respect to other aerospace products and services sold by the Flight Support Group, we compete with both the leading jet engine and aircraft component OEMs and a large number of machining, fabrication, distribution and repair companies, some of which have greater financial and other resources than we do. Competition is based mainly on price, product performance, service and technical capability.

Competition for the repair and overhaul of jet engine and aircraft components and avionics and navigation systems as well as the manufacture of specialty aircraft and defense related parts comes from three principal sources: OEMs, major commercial airlines and other independent service companies. Some of these competitors have greater financial and other resources than we do. Some major commercial airlines own and operate their own service centers and sell repair and overhaul services to other aircraft operators. Foreign airlines that provide repair and overhaul services typically provide these services for their own aircraft components and for third parties. OEMs also maintain service centers that provide repair and overhaul services for the components they manufacture. Other independent service organizations also compete for the repair and overhaul business of other users of aircraft components. We believe that the principal competitive factors in the repair and overhaul market are quality, turnaround time, overall customer service and price.

Our Electronic Technologies Group competes with several large and small domestic and foreign competitors, some of which have greater financial and other resources than we do. The markets for our electronic, data and microwave, and electro-optical equipment products are niche markets with several competitors where competition is based mainly on design, technology, quality, price, service and customer satisfaction.

Raw Materials

We purchase a variety of raw materials, primarily consisting of high temperature alloy sheet metal and castings, forgings, pre-plated metals and electrical components from various vendors. The materials used by our operations are generally available from a number of sources and in sufficient quantities to meet current requirements subject to normal lead times. We are subject to rules promulgated by the Securities Exchange Commission pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act regarding the use of certain materials (tantalum, tin, gold and tungsten), known as conflict minerals, which are mined from the Democratic Republic of the Congo and adjoining countries. These rules may impose additional costs and may introduce new risks related to our ability to verify the origin of any conflict minerals used in our products.

Backlog

Our total backlog was $900 million as of October 31, 2019 as compared to $783 million as of October 31, 2018. The majority of our backlog of orders as of October 31, 2019 is expected to be filled during fiscal 2020. The Electronic Technologies Group’s backlog of unshipped orders was $575 million as of October 31, 2019 as compared to $472 million as of October 31, 2018. The increase in the Electronic Technologies Group's backlog reflects increased orders at one of our businesses that designs and produces mission-extending, crashworthy and ballistically self-sealing auxiliary fuel systems for military rotorcraft as well as the backlogs of businesses acquired during fiscal 2019. The Flight Support Group’s backlog of unshipped orders was $325 million as of October 31, 2019 as compared to $311 million as of October 31, 2018. This backlog excludes forecasted shipments for certain contracts of the Flight Support Group pursuant to which customers provide only estimated annual usage and not firm purchase orders. Our backlogs within the Flight Support Group are typically short-lead in nature with many product orders being received within the month of shipment.

Government Regulation

The FAA regulates the manufacture, repair and operation of all aircraft and aircraft parts operated in the United States. Its regulations are designed to ensure that all aircraft and aviation equipment are continuously maintained in proper condition to ensure safe operation of the aircraft. Similar rules apply in other countries. All aircraft must be maintained under a continuous condition monitoring program and must periodically undergo thorough inspection and maintenance. The inspection, maintenance and repair procedures for the various types of aircraft and equipment are prescribed by regulatory authorities and can be performed only by certified repair facilities utilizing certified technicians. Certification and conformance is required prior to installation of a part on an aircraft. Aircraft operators must maintain logs concerning the utilization and condition of aircraft engines, life-limited engine parts and airframes. In addition, the FAA requires that various maintenance routines be performed on aircraft engines, some engine parts, and airframes at regular intervals based on cycles or flight time. Engine maintenance must also be performed upon the occurrence of certain events, such as foreign object damage in an aircraft engine or the replacement of life-limited engine parts. Such maintenance usually requires that an aircraft engine be taken out of service. Our operations may in the future be subject to new and more stringent regulatory requirements. In that regard, we closely monitor the FAA and industry trade groups in an attempt to understand how possible future regulations might impact us. Our businesses which sell defense products directly to the U.S. Government or for use in systems delivered to the U.S. Government can be subject to various laws and regulations governing pricing and other factors.

There has been no material adverse effect to our consolidated financial statements as a result of these government regulations.

Environmental Regulation

Our operations are subject to extensive, and frequently changing, federal, state and local environmental laws and substantial related regulation by government agencies, including the Environmental Protection Agency. Among other matters, these regulatory authorities impose requirements that regulate the operation, handling, transportation and disposal of hazardous materials; protect the health and safety of workers; and require us to obtain and maintain licenses and permits in connection with our operations. This extensive regulatory framework imposes significant compliance burdens and risks on us. Notwithstanding these burdens, we believe that we are in material compliance with all federal, state and local environmental laws and regulations governing our operations.

There has been no material adverse effect to our consolidated financial statements as a result of these environmental regulations.

Other Regulation

We are also subject to a variety of other regulations including work-related and community safety laws. The Occupational Safety and Health Act of 1970 mandates general requirements for safe workplaces for all employees and established the Occupational Safety and Health Administration ("OSHA") in the Department of Labor. In particular, OSHA provides special procedures and measures for the handling of certain hazardous and toxic substances. In addition, specific safety standards have been promulgated for workplaces engaged in the treatment, disposal or storage of hazardous waste. Requirements under state law, in some circumstances, may mandate additional measures for facilities handling materials specified as extremely dangerous. We believe that our operations are in material compliance with OSHA's health and safety requirements.

Insurance

We are a named insured under policies which include the following coverage: (i) product liability, including grounding; (ii) personal property, inventory and business interruption at our facilities; (iii) general liability coverage; (iv) employee benefit liability; (v) international liability and automobile liability; (vi) umbrella liability coverage; and (vii) various other activities or items, each subject to certain limits and deductibles. We believe that our insurance coverage is adequate to insure against the various liability risks of our business.

Employees

As of October 31, 2019, we had approximately 5,900 full-time and part-time employees including approximately 3,400 in the Flight Support Group and approximately 2,500 in the Electronic Technologies Group. None of our employees are represented by a U.S. domestic union. Our management believes that we have good relations with our employees.

Available Information

Our Internet website address is http://www.heico.com. We make available free of charge, through the Investors section of our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, specialized disclosure reports on Form SD and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission ("SEC"). These materials are also available free of charge on the SEC's website at http://www.sec.gov. The information on or obtainable through our website is not incorporated into this annual report on Form 10-K.

We have adopted a code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller and other persons performing similar functions. Our Code of Ethics for Senior Financial Officers and Other Officers is part of our Code of Business Conduct, which is located on our website at http://www.heico.com. Any amendments to or waivers from a provision of this code of ethics will be posted on the website. Also located on the website are our Corporate Governance Guidelines, Finance/Audit Committee Charter, Nominating & Corporate Governance Committee Charter, and Compensation Committee Charter.

Copies of the above referenced materials will be made available, free of charge, upon written request to the Corporate Secretary at HEICO Corporation, 3000 Taft Street, Hollywood, Florida 33021.

Information About Our Executive Officers

Our executive officers are appointed by the Board of Directors and serve at the discretion of the Board. The following table sets forth the names, ages of, and positions and offices held by our executive officers as of December 17, 2019:

Name	Age	Position(s)	Director Since
Laurans A. Mendelson	81	Chairman of the Board; Chief Executive Officer; and Director	1989
Eric A. Mendelson	54	Co-President and Director; President and Chief Executive Officer of the HEICO Flight Support Group	1992
Victor H. Mendelson	52	Co-President and Director; President and Chief Executive Officer of the HEICO Electronic Technologies Group	1996
Thomas S. Irwin	73	Senior Executive Vice President	—
Carlos L. Macau, Jr.	52	Executive Vice President - Chief Financial Officer and Treasurer	—
Steven M. Walker	55	Chief Accounting Officer and Assistant Treasurer	—

Laurans A. Mendelson has served as our Chairman of the Board since December 1990. He has also served as our Chief Executive Officer since February 1990 and served as our President from September 1991 through September 2009. Mr. Mendelson is a member of the Board of Governors of the Aerospace Industries Association (“AIA”) in Washington, D.C., of which HEICO is a member. He is the former Chairman of the Board of Trustees, former Chairman of the Executive Committee and a current member of the Society of Mount Sinai Founders of Mount Sinai Medical Center in Miami Beach, Florida. In addition, Mr. Mendelson is a Trustee Emeritus of Columbia University in the City of New York, where he previously served as Trustee and Chairman of the Trustees’ Audit Committee. Laurans Mendelson is the father of Eric Mendelson and Victor Mendelson.

Eric A. Mendelson has served as our Co-President since October 2009 and served as our Executive Vice President from 2001 through September 2009. Mr. Mendelson has also served as President and Chief Executive Officer of the HEICO Flight Support Group since its formation in 1993, as well as President of various Flight Support Group subsidiaries. Mr. Mendelson is a co-founder, and, since 1987, has been Managing Director of Mendelson International Corporation, a private investment company, which is a shareholder of HEICO. In addition, Mr. Mendelson is a member of the Advisory Board of Trustees of Mount Sinai Medical Center in Miami Beach, Florida, and a member of the Board of Trustees and a Past Chairman of Ransom Everglades School in Coconut Grove, Florida, as well as a member of the Board of Visitors of Columbia College in New York City. Eric Mendelson is the son of Laurans Mendelson and the brother of Victor Mendelson.

Victor H. Mendelson has served as our Co-President since October 2009 and served as our Executive Vice President from 2001 through September 2009. Mr. Mendelson has also served as President and Chief Executive Officer of the HEICO Electronic Technologies Group since its formation in September 1996. He served as our General Counsel from 1993 to 2008 and our Vice President from 1996 to 2001. In addition, Mr. Mendelson was the Chief Operating Officer of our former MediTek Health Corporation subsidiary from 1995 until its profitable sale in 1996. Mr. Mendelson is a co-founder, and, since 1987, has been President of Mendelson International Corporation, a private investment company, which is a shareholder of HEICO. Mr. Mendelson is a former Director and Audit Committee member of NASDAQ-listed Terrapin 3 Acquisition Corp. Mr. Mendelson is a Trustee of Columbia University in the City of New York, a Trustee of St. Thomas University in Miami Gardens, Florida, a Director of Boys & Girls Clubs of Miami-Dade and is a Director and Past President of the Board of Directors of the Florida Grand Opera. Victor Mendelson is the son of Laurans Mendelson and the brother of Eric Mendelson.

Thomas S. Irwin has served as our Senior Executive Vice President since June 2012; our Executive Vice President, Chief Financial Officer and Treasurer from September 1991 through May 2012; Senior Vice President and Treasurer from 1986 to 1991; and our Vice President and Treasurer from 1982 to 1986. Mr. Irwin is a Certified Public Accountant. He is a member of the American and North Carolina Institutes of Certified Public Accountants and a member of Financial Executives International.

Carlos L. Macau, Jr. has served as our Executive Vice President - Chief Financial Officer and Treasurer since June 2012. Mr. Macau joined HEICO from the international public accounting firm of Deloitte & Touche LLP where he worked from 2000 to 2012 as an Audit Partner. Prior to joining HEICO, Mr. Macau accumulated 22 years of financial and accounting experience serving a number of public and private manufacturing and service clients in a broad range of industries. His client responsibilities included serving as HEICO's lead client services partner for five years (2006 to 2010). Mr. Macau is a current member of the Mount Sinai Founders of Mount Sinai Medical Center in Miami Beach, Florida. Mr. Macau is a Certified Public Accountant, a Chartered Global Management Accountant, and a member of the American and Florida Institutes of Certified Public Accountants.

Steven M. Walker has served as our Chief Accounting Officer since June 2012 and served as our Corporate Controller from 2002 through May 2012. He has also served as our Assistant Treasurer since 2002. Mr. Walker is a Certified Public Accountant and a member of the American Institute of Certified Public Accountants.

Item 1A. *RISK FACTORS*

Our business, financial condition, operating results and cash flows may be impacted by a number of factors, many of which are beyond our control, including those set forth below and elsewhere in this Annual Report on Form 10-K, any one of which may cause our actual results to differ materially from anticipated results:

Our success is highly dependent on the performance of the aviation industry, which could be impacted by lower demand for commercial air travel or airline fleet changes causing lower demand for our goods and services.

General global industry and economic conditions that affect the aviation industry also affect our business. We are subject to macroeconomic cycles and when recessions occur, we may experience reduced orders, payment delays, supply chain disruptions or other factors as a result of the economic challenges faced by our customers, prospective customers and suppliers. Further, the aviation industry has historically been subject to downward cycles from time to time which reduce the overall demand for jet engine and aircraft component replacement parts and repair and overhaul services, and such downward cycles result in lower sales and greater credit risk. Demand for commercial air travel can be influenced by airline industry profitability, world trade policies, government-to-government relations, terrorism, disease outbreaks, environmental constraints imposed upon aircraft operations, technological changes, price and other competitive factors. These global industry and economic conditions may have a material adverse effect on our business, financial condition and results of operations.

We are subject to governmental regulation and our failure to comply with these regulations could cause the government to withdraw or revoke our authorizations and approvals to do business and could subject us to penalties and sanctions that could harm our business.

Governmental agencies throughout the world, including the FAA, highly regulate the manufacture, repair and overhaul of aircraft parts and accessories. We include, with the replacement parts that we sell to our customers, documentation certifying that each part complies with applicable regulatory requirements and meets applicable standards of airworthiness established by the FAA or the equivalent regulatory agencies in other countries. In addition, our repair and overhaul operations are subject to certification pursuant to regulations established by the FAA. Specific regulations vary from country to country, although compliance with FAA requirements generally satisfies regulatory requirements in other countries. The revocation or suspension of any of our material authorizations or approvals would have an adverse effect on our business, financial condition and results of operations. New and more stringent government regulations, if adopted and enacted, could have an adverse effect on our business, financial condition and results of operations. In addition, certain product sales to foreign countries of our Electronic Technologies Group and Flight Support Group require approval or licensing from the United States ("U.S.") government. Denial of export licenses could reduce our sales to those countries and could have a material adverse effect on our business.

Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Securities and Exchange Commission promulgated disclosure requirements regarding the use of certain minerals (tantalum, tin, gold and tungsten), known as conflict minerals, which are mined from the Democratic Republic of the Congo or one of its adjoining countries. There are costs associated with complying with the disclosure requirements, such as costs related to determining the source of certain minerals used in our products, as well as costs of possible changes to products, processes, or sources of supply as a consequence of such verification activities. Given the complexity of our supply chain, we may not be able to ascertain the origin of these minerals used in our products in a timely manner, which could cause some of our customers to disqualify us as a supplier to the extent we are unable to certify our products are conflict mineral free. Additionally, the rule could affect sourcing at competitive prices and availability in sufficient quantities of such minerals used in our manufacturing processes for certain products.

The retirement of commercial aircraft could reduce our revenues.

Our Flight Support Group designs and manufactures jet engine and aircraft component replacement parts and also repairs, overhauls and distributes jet engine and aircraft components. If aircraft or engines for which we offer replacement parts or supply repair and overhaul services are retired and there are fewer aircraft that require these parts or services, our revenues may decline.

Reductions in defense, space or homeland security spending by U.S. and/or foreign customers could reduce our revenues.

In fiscal 2019, approximately 64% of the net sales of our Electronic Technologies Group were derived from the sale of defense, commercial and defense satellite and spacecraft components, and homeland security products. A decline in defense, space or homeland security budgets or additional restrictions imposed by the U.S. government on sales of products or services to foreign military agencies could lower sales of our products and services.

We are subject to the risks associated with sales to foreign customers, which could harm our business.

We market our products and services to approximately 110 countries, with approximately 36% of our consolidated net sales in fiscal 2019 derived from sales to foreign customers. We expect that sales to foreign customers will continue to account for a significant portion of our revenues in the foreseeable future. As a result, we are subject to risks of doing business internationally, including the following:

- Fluctuations in currency exchange rates;
- Volatility in foreign political, regulatory, and economic environments;
- Ability to obtain required export licenses or approvals;
- Uncertainty of the ability of foreign customers to finance purchases;
- Uncertainties and restrictions concerning the availability of funding credit or guarantees;
- Imposition of taxes, export controls, tariffs, embargoes and other trade restrictions; and

- Compliance with a variety of international laws, as well as U.S. laws affecting the activities of U.S. companies abroad such as the U.S. Foreign Corrupt Practices Act.

While the impact of these factors is difficult to predict, any one or more of these factors may have a material adverse effect on our business, financial condition and results of operations.

Intense competition from existing and new competitors may harm our business.

We face significant competition in each of our businesses.

Flight Support Group

- For jet engine and aircraft component replacement parts, we compete with the industry's leading jet engine and aircraft component OEMs.

- For the distribution, overhaul and repair of jet engine and aircraft components and avionics and navigation systems as well as the manufacture of specialty aircraft and defense related parts, we compete with:
  - major commercial airlines, many of which operate their own maintenance and overhaul units;
  - OEMs, which manufacture, distribute, repair and overhaul their own and other OEM parts; and
  - other independent service companies.

Electronic Technologies Group

- For the design and manufacture of various types of electronic, data and microwave, and electro-optical equipment products, we compete in a fragmented marketplace with a number of companies, some of which are well capitalized.

The aviation aftermarket supply industry is highly fragmented, has several highly visible leading companies, and is characterized by intense competition. Some of our OEM competitors have greater name recognition than HEICO, as well as complementary lines of business and financial, marketing and other resources that HEICO does not have. In addition, OEMs, aircraft maintenance providers, leasing companies and FAA-certificated repair facilities may attempt to bundle their services and product offerings in the supply industry, thereby significantly increasing industry competition. Moreover, our smaller competitors may be able to offer more attractive pricing of parts as a result of lower labor costs or other factors. A variety of potential actions by any of our competitors, including a reduction of product prices or the establishment by competitors of long-term relationships with new or existing customers, could have a material adverse effect on our business, financial condition and results of operations. Competition typically intensifies during cyclical downturns in the aviation industry, when supply may exceed demand. We may not be able to continue to compete effectively against present or future competitors, and competitive pressures may have a material adverse effect on our business, financial condition and results of operations.

Our success is dependent on the development and manufacture of new products, equipment and services. Our inability to develop, manufacture and introduce new products and services at profitable pricing levels could reduce our sales or sales growth.

The aviation, defense, space, medical, telecommunications and electronics industries are constantly undergoing development and change and, accordingly, new products, equipment and methods of repair and overhaul service are likely to be introduced in the future. In addition to manufacturing electronic and electro-optical equipment and selected aerospace and defense components for OEMs and the U.S. government and repairing jet engine and aircraft components, we re-design sophisticated aircraft replacement parts originally developed by OEMs so that we can offer the replacement parts for sale at substantially lower prices than those manufactured by the OEMs. Consequently, we devote substantial resources to research and product development. Technological development poses a number of challenges and risks, including the following:

- We may not be able to successfully protect the proprietary interests we have in various aircraft parts, electronic and electro-optical equipment and our repair processes;

- As OEMs continue to develop and improve jet engines and aircraft components, we may not be able to re-design and manufacture replacement parts that perform as well as those offered by OEMs or we may not be able to profitably sell our replacement parts at lower prices than the OEMs;

- We may need to expend significant capital to:
  - purchase new equipment and machines,
  - train employees in new methods of production and service, and
  - fund the research and development of new products; and

- Development by our competitors of patents or methodologies that preclude us from the design and manufacture of aircraft replacement parts or electrical and electro-optical equipment could adversely affect our business, financial condition and results of operations.

In addition, we may not be able to successfully develop new products, equipment or methods of repair and overhaul service, and the failure to do so could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to effectively execute our acquisition strategy, which could slow our growth.

A key element of our strategy is growth through the acquisition of additional companies. Our acquisition strategy is affected by and poses a number of challenges and risks, including the following:

- Availability of suitable acquisition candidates;

- Availability of capital;
- Diversion of management’s attention;
- Effective integration of the operations and personnel of acquired companies;
- Potential write downs of acquired intangible assets;
- Potential loss of key employees of acquired companies;
- Use of a significant portion of our available cash;
- Significant dilution to our shareholders for acquisitions made utilizing our securities; and
- Consummation of acquisitions on satisfactory terms.

We may not be able to successfully execute our acquisition strategy, and the failure to do so could have a material adverse effect on our business, financial condition and results of operations.

Goodwill and other intangible assets represent a significant portion of our total assets, and we may never realize the full value of our intangible assets.

As a result of our acquisitions, goodwill and intangible assets represent a significant portion of our total assets. As of October 31, 2019 and 2018, goodwill and intangible assets, net of amortization, accounted for 61% of our total assets. We test our goodwill and intangible assets for impairment on an annual basis, or more frequently if events or changes in circumstances indicate that the carrying amount of such assets may not be fully recoverable. We may not realize the full value of our goodwill and intangible assets, and to the extent that impairment has occurred, we would be required to recognize the impaired portion of such assets in our earnings. An impairment of a significant portion of such assets could have a material adverse effect on our business, financial condition and results of operations.

The inability to obtain certain components and raw materials from suppliers could harm our business.

Our business is affected by the availability and price of the raw materials and component parts that we use to manufacture our products. Our ability to manage inventory and meet delivery requirements may be constrained by our suppliers’ ability to adjust delivery of long-lead time products during times of volatile demand. The supply chains for our business could also be disrupted by external events such as natural disasters, extreme weather events, labor disputes, governmental actions and legislative or regulatory changes. As a result, our suppliers may fail to perform according to specifications when required and we may be unable to identify alternate suppliers or to otherwise mitigate the consequences of their non-performance. Transitions to new suppliers may result in significant costs and delays, including those related to the required recertification of parts obtained from new suppliers with our customers and/or regulatory agencies. Our inability to fill our supply needs could jeopardize our ability to fulfill obligations under customer contracts, which could result in reduced revenues and profits, contract penalties or terminations, and damage to customer relationships. Further, increased costs of such raw materials or components could reduce our profits if we were unable to pass along such price increases to our customers.

Product specification costs and requirements could cause an increase to our costs to complete contracts.

The costs to meet customer specifications and requirements could result in us having to spend more to design or manufacture products and this could reduce our profit margins on current contracts or those we obtain in the future.

We may incur product liability claims that are not fully insured and such insurance may not be available at commercially reasonable rates.

Our jet engine and aircraft component replacement parts and repair and overhaul services expose our business to potential liabilities for personal injury or death as a result of the failure of an aircraft component that we have designed, manufactured or serviced. While we maintain liability insurance to protect us from future product liability claims, an uninsured or partially insured claim, or a claim for which third-party indemnification is not available, could have a material adverse effect on our business, financial condition and results of operations. Additionally, our customers typically require us to maintain substantial insurance coverage at commercially reasonable rates and our inability to obtain insurance coverage at commercially reasonable rates could have a material adverse effect on our business.

We may incur environmental liabilities and these liabilities may not be covered by insurance.

Our operations and facilities are subject to a number of federal, state and local environmental laws and regulations, which govern, among other things, the discharge of hazardous materials into the air and water as well as the handling, storage and disposal of hazardous materials. Pursuant to various environmental laws, a current or previous owner or operator of real property may be liable for the costs of removal or remediation of hazardous materials. Environmental laws typically impose liability whether or not the owner or operator knew of, or was responsible for, the presence of hazardous materials. Although management believes that our operations and facilities are in material compliance with environmental laws and regulations, future changes in them or interpretations thereof or the nature of our operations may require us to make significant additional capital expenditures to ensure compliance in the future.

We carry limited specific environmental insurance, thus, losses could occur for uninsurable or uninsured risks or in amounts in excess of existing insurance coverage. The occurrence of an event that is not covered in full or in part by insurance could have a material adverse effect on our business, financial condition and results of operations.

We may incur damages or disruption to our business caused by natural disasters and other factors that may not be covered by insurance.

Several of our facilities, as a result of their locations, could be subject to a catastrophic loss caused by hurricanes, tornadoes, earthquakes, floods, fire, power loss, telecommunication and information systems failure, political unrest or similar events. Our corporate headquarters and facilities located in Florida are particularly susceptible to hurricanes, storms, tornadoes or other natural disasters that could disrupt our operations, delay production and shipments, and result in large expenses to repair or replace the facility or facilities. Should insurance or other risk transfer mechanisms, such as our existing disaster recovery and business continuity plans, be insufficient to recover all costs, we could experience a material adverse effect on our business, financial condition and results of operations.

Cyber security events or other disruptions of our information technology systems could adversely affect our business.

We rely on information technology systems, some of which are managed by third parties, to process, transmit and store electronic information, and to manage or support a variety of critical business processes and activities. We also collect and store sensitive data, including confidential business information and personal data. These systems may be susceptible to damage, disruptions or shutdowns due to attacks by computer hackers, computer viruses, employee error or malfeasance, power outages, hardware failures, telecommunication or utility failures, catastrophes or other unforeseen events. In addition, security breaches of our systems could result in the misappropriation or unauthorized disclosure of confidential information or personal data belonging to us or to our employees, partners, customers or suppliers. Any such events could disrupt our operations, delay production and shipments, result in defective products or services, damage customer relationships and our reputation and result in legal claims or proceedings that could have a material adverse effect on our business, financial condition and results of operations.

Tax changes could affect our effective tax rate and future profitability.

We file income tax returns in the U.S. federal jurisdiction, multiple state jurisdictions and certain jurisdictions outside the U.S. In fiscal 2019, our effective tax rate was 17.8%. Our future effective tax rate may be adversely affected by a number of factors, including the following:

- Changes in statutory tax rates in any of the various jurisdictions where we file tax returns;
- Changes in available tax credits or tax deductions;
- Changes in tax laws or the interpretation of such tax laws including interpretations, amendments and technical corrections of the recently enacted Tax Cuts and Jobs Act;
- Changes to the accounting for income taxes in accordance with generally accepted accounting principles;
- The amount of net income attributable to noncontrolling interests in our subsidiaries structured as partnerships;
- Changes in the mix of earnings in jurisdictions with differing statutory tax rates;
- Adjustments to estimated taxes upon finalization of various tax returns;
- Resolution of issues arising from tax audits with various tax authorities; and
- The reversal of any previously experienced tax-exempt unrealized gains in the cash surrender values of life insurance policies related to the HEICO Corporation Leadership Compensation Plan, a nonqualified deferred compensation plan.

Any significant increase in our future effective tax rates could have a material adverse effect on net income for future periods.

We may not have the administrative, operational or financial resources to continue to grow the company.

We have experienced rapid growth in recent periods and intend to continue to pursue an aggressive growth strategy, both through acquisitions and internal expansion of products and services. Our growth to date has placed, and could continue to place, significant demands on our administrative, operational and financial resources. We may not be able to grow effectively or manage our growth successfully, and the failure to do so could have a material adverse effect on our business, financial condition and results of operations.

We are dependent on key personnel and the loss of these key personnel could have a material adverse effect on our success.

Our success substantially depends on the performance, contributions and expertise of our senior management team led by Laurans A. Mendelson, our Chairman and Chief Executive Officer, and Eric A. Mendelson and Victor H. Mendelson, our Co-Presidents. Technical employees are also critical to our research and product development, as well as our ability to continue to re-design sophisticated products of OEMs in order to sell competing replacement parts at substantially lower prices than those manufactured by the OEMs. The loss of the services of any of our executive officers or other key employees or our inability to continue to attract or retain the necessary personnel could have a material adverse effect on our business, financial condition and results of operations.

Our executive officers and directors have significant influence over our management and direction.

As of December 17, 2019, collectively our executive officers and entities controlled by them, the HEICO Savings and Investment Plan (our 401(k) Plan) and members of the Board of Directors beneficially owned approximately 19% of our outstanding Common Stock and approximately 5% of our outstanding Class A Common Stock. Accordingly, they will be able to substantially influence the election of the Board of Directors and control our business, policies and affairs, including our position with respect to proposed business combinations and attempted takeovers.

Item 1B. *UNRESOLVED STAFF COMMENTS*

None.

Item 2. *PROPERTIES*

We own or lease a number of facilities, which are utilized by our Flight Support Group ("FSG"), Electronic Technologies Group ("ETG") and corporate offices. As of October 31, 2019, all of the facilities listed below were in good operating condition, well maintained and in regular use. We believe that our existing facilities are sufficient to meet our operational needs for the foreseeable future. Summary information on the facilities utilized within the FSG, ETG and our corporate offices to support their principal operating activities is as follows:

Flight Support Group

	Square Footage		
Location	**Leased**	**Owned**	**Description**
United States facilities (13 states)	820,000	260,000	Manufacturing, engineering and distribution facilities, and corporate headquarters
United States facilities (6 states)	193,000	127,000	Repair and overhaul facilities
International facilities (11 countries) - China, France, Germany, India, Laos, Netherlands, Singapore, Spain, Thailand, United Arab Emirates and United Kingdom	129,000	173,000	Manufacturing, engineering and distribution facilities, and sales offices

Electronic Technologies Group

	Square Footage		
Location	**Leased**	**Owned**	**Description**
United States facilities (14 states)	763,000	414,000	Manufacturing and engineering facilities
International facilities (4 countries) - Canada, France, South Korea and United Kingdom	97,000	51,000	Manufacturing and engineering facilities

Corporate

	Square Footage		
Location	**Leased**	**Owned** (1)	**Description**
United States facilities (1 state)	—	7,000	Administrative offices

(1) Represents the square footage of our corporate offices in Miami, Florida. The square footage of our corporate headquarters in Hollywood, Florida is included within Square Footage-Owned of the caption "United States facilities (13 states)" under Flight Support Group.

Item 3. *LEGAL PROCEEDINGS*

We are involved in various legal actions arising in the normal course of business. Based upon the Company’s and our legal counsel’s evaluations of any claims or assessments, management is of the opinion that the outcome of these matters will not have a material effect on our results of operations, financial position or cash flows.

Item 4. *MINE SAFETY DISCLOSURES*

Not applicable.

PART II

Item 5. *MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES*

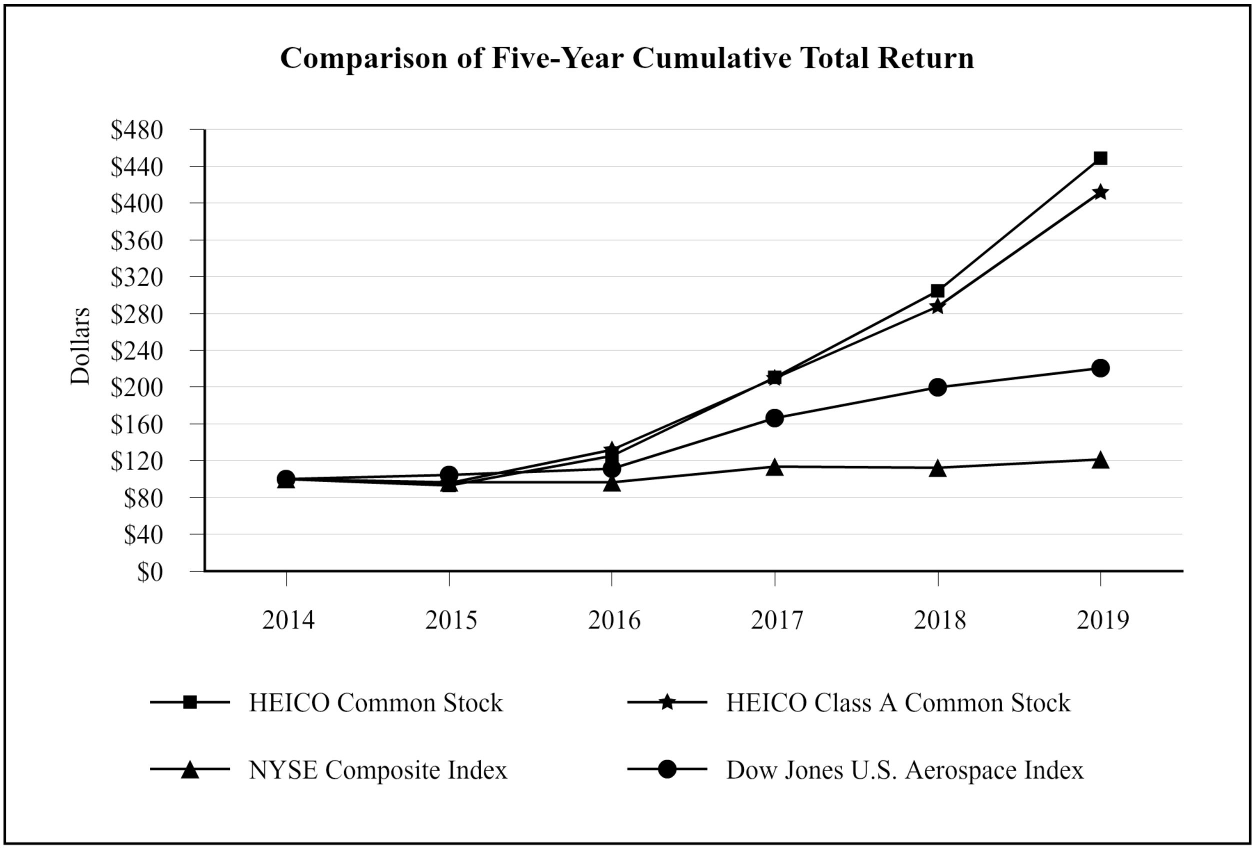
Market Information

Our Class A Common Stock and Common Stock are listed and traded on the New York Stock Exchange (“NYSE”) under the symbols “HEI.A” and “HEI,”respectively.

As of December 17, 2019, there were 306 holders of record of our Class A Common Stock and 305 holders of record of our Common Stock.

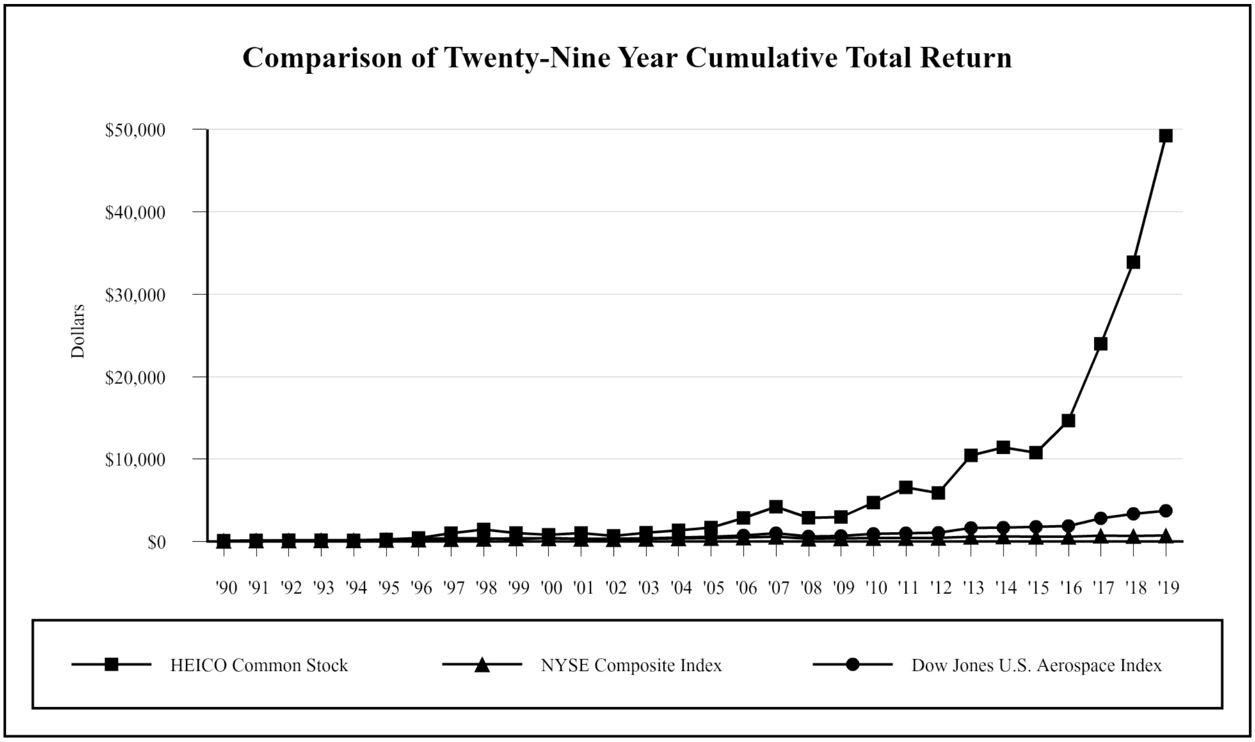
Performance Graphs

The following graph and table compare the total return on $100 invested in HEICO Common Stock and HEICO Class A Common Stock with the total return on $100 invested in the NYSE Composite Index and the Dow Jones U.S. Aerospace Index for the five-year period from October 31, 2014 through October 31, 2019. The NYSE Composite Index measures the performance of all common stocks listed on the NYSE. The Dow Jones U.S. Aerospace Index is comprised of large companies which make aircraft, major weapons, radar and other defense equipment and systems as well as providers of satellites and spacecraft used for defense purposes. The total returns include the reinvestment of cash dividends.



	Cumulative Total Return as of October 31,					
	2014	2015	2016	2017	2018	2019
HEICO Common Stock	$100.00	$93.22	$125.20	$210.52	$304.59	$448.78
HEICO Class A Common Stock	100.00	95.76	131.97	209.77	287.68	411.87
NYSE Composite Index	100.00	96.46	96.65	113.79	112.57	121.46
Dow Jones U.S. Aerospace Index	100.00	104.71	111.30	166.38	199.92	220.76

The following graph and table compare the total return on $100 invested in HEICO Common Stock since October 31, 1990 using the same indices shown on the five-year performance graph above. October 31, 1990 was the end of the first fiscal year following the date the current executive management team assumed leadership of the Company. No Class A Common Stock was outstanding as of October 31, 1990. As with the five-year performance graph, the total returns include the reinvestment of cash dividends.



Cumulative Total Return as of October 31,

	1990	1991	1992	1993	1994	1995
HEICO Common Stock	$100.00	$141.49	$158.35	$173.88	$123.41	$263.25
NYSE Composite Index	100.00	130.31	138.76	156.09	155.68	186.32
Dow Jones U.S. Aerospace Index	100.00	130.67	122.00	158.36	176.11	252.00

	1996	1997	1998	1999	2000	2001
HEICO Common Stock	$430.02	$1,008.31	$1,448.99	$1,051.61	$809.50	$1,045.86
NYSE Composite Index	225.37	289.55	326.98	376.40	400.81	328.78
Dow Jones U.S. Aerospace Index	341.65	376.36	378.66	295.99	418.32	333.32

	2002	2003	2004	2005	2006	2007
HEICO Common Stock	$670.39	$1,067.42	$1,366.57	$1,674.40	$2,846.48	$4,208.54
NYSE Composite Index	284.59	339.15	380.91	423.05	499.42	586.87
Dow Jones U.S. Aerospace Index	343.88	393.19	478.49	579.77	757.97	1,000.84

	2008	2009	2010	2011	2012	2013
HEICO Common Stock	$2,872.01	$2,984.13	$4,722.20	$6,557.88	$5,900.20	$10,457.14
NYSE Composite Index	344.96	383.57	427.61	430.46	467.91	569.69
Dow Jones U.S. Aerospace Index	602.66	678.00	926.75	995.11	1,070.15	1,645.24

	2014	2015	2016	2017	2018	2019
HEICO Common Stock	$11,416.51	$10,776.88	$14,652.37	$23,994.03	$33,876.95	$49,277.28
NYSE Composite Index	617.23	595.37	596.57	702.38	694.81	749.66
Dow Jones U.S. Aerospace Index	1,687.41	1,766.94	1,878.10	2,807.42	3,373.52	3,725.15

Issuer Purchases of Equity Securities

There were no issuer purchases of our equity securities during the fourth quarter of fiscal 2019.

Recent Sales of Unregistered Securities

There were no unregistered sales of our equity securities during fiscal 2019.

Dividend Policy

We have historically paid semi-annual cash dividends on both our Class A Common Stock and Common Stock. In July 2019, we paid our 82nd consecutive semi-annual cash dividend since 1979 of $.07 per share. Additionally, our 81st consecutive semi-annual cash dividend paid in January 2019 represented a 17% increase over the $.06 per share semi-annual cash dividend paid in July 2018. In December 2019, our Board of Directors declared a regular semi-annual cash dividend of $.08 per share payable in January 2020. This cash dividend represents a 14% increase over the prior semi-annual per share amount of $.07.

Our Board of Directors will continue to review our dividend policy and will regularly evaluate whether dividends should be paid in cash or stock, as well as what amounts should be paid. Our ability to pay dividends could be affected by future business performance, liquidity, capital needs, alternative investment opportunities and loan covenants under our revolving credit facility.

Item 6. *SELECTED FINANCIAL DATA*

	Year ended October 31, (1)				
	2019	2018	2017	2016	2015
	(in thousands, except per share data)				
Operating Data:					
Net sales	$2,055,647	$1,777,721	$1,524,813	$1,376,258	$1,188,648
Gross profit	813,840	690,715	574,725	515,492	434,179
Selling, general and administrative expenses	356,743	314,470	268,067	250,147	204,523
Operating income	457,097	376,245	306,658	265,345	229,656
Interest expense	21,695	19,901	9,790	8,272	4,626
Other income (expense)	2,439	(58)	1,092	(23)	(66)
Net income attributable to HEICO	327,896 (2)	259,233 (3)(4)	185,985 (5)	156,192	133,364
Weighted average number of common shares outstanding:					
Basic	133,640	132,543	131,703	130,948	130,351
Diluted	137,350	136,696	135,588	133,145	132,444
Per Share Data:					
Net income per share attributable to HEICO shareholders:					
Basic	$2.45 (2)	$1.96 (3)(4)	$1.41 (5)	$1.19	$1.02
Diluted	2.39 (2)	1.90 (3)(4)	1.37 (5)	1.17	1.01
Cash dividends per share	.140	.116	.097	.082	.072
Balance Sheet Data (as of October 31):					
Cash and cash equivalents	$57,001	$59,599	$52,066	$42,955	$33,603
Total assets	2,969,211	2,653,396	2,512,431	1,998,412	1,700,857
Total debt (including current portion)	561,955	532,470	673,979	458,225	367,598
Redeemable noncontrolling interests	188,264	132,046	131,123	99,512	91,282
Total shareholders' equity	1,694,660	1,503,008	1,248,292	1,047,705	893,271

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(1) Results include the results of acquisitions from each respective effective date. See Note 2, Acquisitions, of the Notes to Consolidated Financial Statements for more information.

(2) During fiscal 2019, the Company recognized a $16.5 million discrete tax benefit from stock option exercises, which, net of noncontrolling interests, increased net income attributable to HEICO by $15.0 million, or $.11 per basic and diluted share.

(3) During fiscal 2018, the United States ("U.S.") government enacted significant changes to existing tax law resulting in HEICO recording a discrete tax benefit from remeasuring its U.S. federal net deferred tax liabilities that was partially offset by a provisional discrete tax expense related to a one-time transition tax on the unremitted earnings of HEICO's foreign subsidiaries. The net impact of these amounts increased net income attributable to HEICO by $12.1 million, or $.09 per basic and diluted share. See Note 7, Income Taxes, of the Notes to Consolidated Financial Statements for more information.

(4) During fiscal 2018, the Company recognized a net benefit from stock option exercises that increased net income attributable to HEICO by $2.1 million, or $.02 per basic and diluted share.

(5) During fiscal 2017, we adopted Accounting Standards Update 2016-09, "Improvements to Employee Share-Based Payment Accounting," resulting in the recognition of a $3.1 million discrete income tax benefit and a 1,220,000 increase in our weighted average number of diluted common shares outstanding, which, net of noncontrolling interests, increased net income attributable to HEICO by $2.6 million, or $.02 per basic and $.01 per diluted share.

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

Overview

Our business is comprised of two operating segments, the Flight Support Group ("FSG") and the Electronic Technologies Group ("ETG").

The Flight Support Group consists of HEICO Aerospace Holdings Corp. ("HEICO Aerospace"), which is 80% owned, and HEICO Flight Support Corp., which is wholly owned, and their collective subsidiaries, which primarily:

- *Designs, Manufactures, Repairs, Overhauls and Distributes Jet Engine and Aircraft Component Replacement Parts.* The Flight Support Group designs, manufactures, repairs, overhauls and distributes jet engine and aircraft component replacement parts. The parts and services are approved by the Federal Aviation Administration ("FAA"). The Flight Support Group also manufactures and sells specialty parts as a subcontractor for aerospace and industrial original equipment manufacturers and the United States ("U.S.") government. Additionally, the Flight Support Group is a leading supplier, distributor, and integrator of military aircraft parts and support services primarily to foreign military organizations allied with the U.S. and a leading manufacturer of advanced niche components and complex composite assemblies for commercial aviation, defense and space applications. Further, the Flight Support Group engineers, designs and manufactures thermal insulation blankets and parts as well as removable/reusable insulation systems for aerospace, defense, commercial and industrial applications, manufactures expanded foil mesh for lightning strike protection in fixed and rotary wing aircraft and is a distributor of aviation electrical interconnect products and electromechanical parts.

The Electronic Technologies Group consists of HEICO Electronic Technologies Corp. ("HEICO Electronic") and its subsidiaries, which primarily:

- *Designs and Manufactures Electronic, Microwave and Electro-Optical Equipment, High-Speed Interface Products, High Voltage Interconnection Devices and High Voltage Advanced Power Electronics.* The Electronic Technologies Group collectively designs, manufactures and sells various types of electronic, data and microwave, and electro-optical products, including power supplies, laser rangefinder receivers, infrared simulation, calibration and testing equipment; power conversion products serving the high-reliability military, space and commercial avionics end-markets; underwater locator beacons used to locate data and voice recorders utilized on aircraft and marine vessels; emergency locator beacons utilized on commercial and military aircraft; electromagnetic interference shielding for commercial and military aircraft operators, electronics companies and telecommunication equipment suppliers; traveling wave tube amplifiers and microwave power modules used in radar, electronic warfare and on-board jamming and countermeasure systems; advanced high-technology interface products that link devices such as telemetry receivers, digital cameras, high resolution scanners, simulation systems and test systems to computers; high voltage energy generators, high voltage interconnection devices, cable assemblies and wire for the medical equipment, defense and other industrial markets; high voltage power supplies found in satellite communications, CT scanners and in medical and industrial x-ray systems; three-dimensional microelectronic and stacked memory products that are principally integrated into larger subsystems equipping satellites and spacecraft; harsh environment connectivity products and custom molded cable assemblies; radio frequency ("RF") and microwave amplifiers, transmitters and receivers used to support military communications on unmanned aerial systems, other aircraft, helicopters and ground-based data/communications systems; communications and electronic intercept receivers and tuners for military and intelligence applications; wireless cabin control systems, solid state power distribution and management systems and fuel level sensing systems for business jets and for general aviation, as well as for the military/defense market; microwave modules, units and integrated sub-systems for commercial and military satellites; crashworthy and ballistically self-sealing auxiliary fuel systems for military rotorcraft; nuclear radiation detectors for law enforcement, homeland security and military applications; high performance active antenna systems for commercial aircraft, precision guided munitions, other defense applications and commercial uses; silicone material for a variety of demanding applications; precision power analog monolithic, hybrid and open frame components for a certain wide range of defense, industrial and medical applications; high-reliability ceramic-to-metal feedthroughs and connectors used in the industrial and medical markets; technical surveillance countermeasures equipment to detect devices used for espionage and information theft; and RF sources, detectors, and controllers for a certain wide range of aerospace and defense applications.

Our results of operations have been affected by recent acquisitions as further detailed in Note 2, Acquisitions, of the Notes to Consolidated Financial Statements.

Presentation of Results of Operations and Liquidity and Capital Resources

The following discussion and analysis of our Results of Operations and Liquidity and Capital Resources includes a comparison of fiscal 2019 to fiscal 2018. A similar discussion and analysis that compares fiscal 2018 to fiscal 2017 may be found in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," of our Form 10-K for the fiscal year ended October 31, 2018.

Results of Operations

The following table sets forth the results of our operations, net sales and operating income by segment and the percentage of net sales represented by the respective items in our Consolidated Statements of Operations (in thousands):

	Year ended October 31,	
	2019	2018
Net sales	$2,055,647	$1,777,721
Cost of sales	1,241,807	1,087,006
Selling, general and administrative expenses	356,743	314,470
Total operating costs and expenses	1,598,550	1,401,476
Operating income	$457,097	$376,245
Net sales by segment:		
Flight Support Group	$1,240,183	$1,097,937
Electronic Technologies Group	834,522	701,827
Intersegment sales	(19,058)	(22,043)
	$2,055,647	$1,777,721
Operating income by segment:		
Flight Support Group	$242,029	$206,623
Electronic Technologies Group	245,743	204,508
Other, primarily corporate	(30,675)	(34,886)
	$457,097	$376,245
Net sales	100.0%	100.0%
Gross profit	39.6%	38.9%
Selling, general and administrative expenses	17.4%	17.7%
Operating income	22.2%	21.2%
Interest expense	1.1%	1.1%
Other income (expense)	.1%	—%
Income tax expense	3.8%	4.0%
Net income attributable to noncontrolling interests	1.5%	1.5%
Net income attributable to HEICO	16.0%	14.6%

Comparison of Fiscal 2019 to Fiscal 2018

Net Sales

Our consolidated net sales in fiscal 2019 increased by 16% to a record $2,055.6 million, up from net sales of $1,777.7 million in fiscal 2018. The increase in consolidated net sales principally reflects an increase of $132.7 million (a 19% increase) to a record $834.5 million in net sales within the ETG and an increase of $142.2 million (a 13% increase) to a record $1,240.2 million in net sales within the FSG. The net sales increase in the ETG reflects organic growth of 10% and net sales of $66.1 million contributed by fiscal 2019 and 2018 acquisitions. The ETG's organic growth is mainly attributable to increased demand for our defense and aerospace products resulting in net sales increases of $60.6 million and $14.0 million, respectively. The net sales increase in the FSG principally reflects organic growth of 13%. The FSG's organic growth is mainly attributable to increased demand and new product offerings within our aftermarket replacement parts, specialty products and repair and overhaul services product lines resulting in net sales increases of $95.4 million, $31.5 million and $10.8 million, respectively. Sales price changes were not a significant contributing factor to the ETG and FSG net sales growth in fiscal 2019.

Our net sales in fiscal 2019 and 2018 by market consisted of approximately 52% and 53% from the commercial aviation industry, respectively, 35% from the defense and space industries in both periods and and 13% and 12% from other industrial markets including electronics, medical and telecommunications, respectively.

Gross Profit and Operating Expenses

Our consolidated gross profit margin increased to 39.6% in fiscal 2019, up from 38.9% in fiscal 2018, principally reflecting an increase of .9% and .4% in the ETG's and FSG's gross profit margins, respectively. The increase in the ETG's gross profit margin is principally attributable to increased net sales and a more favorable product mix for certain defense products. The increase in the FSG's gross profit margin is principally attributable to the previously mentioned higher net sales within our aftermarket replacement parts product line. Total new product research and development expenses included within our consolidated cost of sales were $66.6 million in fiscal 2019 compared to $57.5 million in fiscal 2018.

Our consolidated selling, general and administrative ("SG&A") expenses were $356.7 million and $314.5 million in fiscal 2019 and 2018, respectively. The increase in consolidated SG&A expenses principally reflects $21.6 million attributable to the fiscal 2019 and 2018 acquisitions, $9.1 million of higher performance-based compensation expense and $3.8 million attributable to changes in the estimated fair value of accrued contingent consideration.

Our consolidated SG&A expenses as a percentage of net sales decreased to 17.4% in fiscal 2019, down from 17.7% in fiscal 2018. The decrease in consolidated SG&A expenses as a percentage of net sales principally reflects efficiencies realized from the net sales growth.

Operating Income

Our consolidated operating income increased by 21% to a record $457.1 million in fiscal 2019, up from $376.2 million in fiscal 2018. The increase in consolidated operating income principally reflects a $41.2 million increase (a 20% increase) to a record $245.7 million in operating income of the ETG and a $35.4 million increase (a 17% increase) to a record $242.0 million in operating income of the FSG. The increase in operating income of the ETG and FSG is principally attributable to the previously mentioned net sales growth and improved gross profit margins. Further, the operating income of the ETG in fiscal 2019 reflects $5.4 million of higher performance-based compensation expense and $2.7 million of higher acquisition-related costs.

Our consolidated operating income as a percentage of net sales improved to 22.2% in fiscal 2019, up from 21.2% in fiscal 2018. The increase principally reflects an increase in the FSG's operating income as a percentage of net sales to 19.5% in fiscal 2019, up from 18.8% in fiscal 2018 and an increase in the ETG’s operating income as a percentage of net sales to 29.4% in fiscal 2019, up from 29.1% in fiscal 2018. The increase in the FSG's and ETG's operating income as a percentage of net sales principally reflects the previously mentioned improved gross profit margins and efficiencies realized from the net sales growth. Further, the ETG's operating income as a percentage of net sales in fiscal 2019 reflects a .6% increase in SG&A expenses as a percentage of net sales mainly from the previously mentioned higher performance-based compensation expense and higher acquisition-related costs.

Interest Expense

Interest expense increased to $21.7 million in fiscal 2019, up from $19.9 million in fiscal 2018. The increase was principally due to higher interest rates partially offset by a lower weighted average balance outstanding under our revolving credit facility.

Other Income (Expense)

Other income (expense) in fiscal 2019 and 2018 was not material.

Income Tax Expense

In December 2017, the United States ("U.S.") government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act contains significant changes to previous tax law, some of which became immediately effective in fiscal 2018 including, among other things, a reduction in the U.S. federal statutory tax rate from 35% to 21% effective January 1, 2018 resulting in a blended rate of 23.3% for fiscal 2018 and the implementation of a territorial tax system resulting in a one-time transition tax on the unremitted earnings of our foreign subsidiaries. Certain other provisions of the Tax Act became effective for HEICO in fiscal 2019 including a new tax on Global Intangible Low-Taxed Income ("GILTI"), a new deduction for Foreign-Derived Intangible Income ("FDII"), the repeal of the domestic production activity deduction and increased limitations on the deductibility of certain executive compensation. As a result of the Tax Act, we remeasured our U.S. federal net deferred tax liabilities and recorded a discrete tax benefit of $16.5 million in fiscal 2018. Further, we recorded a provisional discrete tax expense of $4.4 million in fiscal 2018 related to a one-time transition tax on the unremitted earnings of our foreign subsidiaries, which we intend to pay over the eight-year period allowed for in the Tax Act.

Our effective tax rate in fiscal 2019 decreased to 17.8% from 19.8% in fiscal 2018. The decrease in our effective tax rate in fiscal 2019 is mainly attributable to a $14.3 million larger tax benefit in fiscal 2019 from stock option exercises compared to fiscal 2018 and the reduction in the federal tax rate from a blended rate of 23.3% in fiscal 2018 to 21% in fiscal 2019, partially offset by the net impact of the previously mentioned discrete tax amounts recorded in fiscal 2018. The provisions of the Tax Act that became effective for us in fiscal 2019 did not have a material net effect on our effective tax rate.

Net Income Attributable to Noncontrolling Interests

Net income attributable to noncontrolling interests relates to the 20% noncontrolling interest held by Lufthansa Technik AG in HEICO Aerospace Holdings Corp. and the noncontrolling interests held by others in certain subsidiaries of the FSG and ETG. Net income attributable to noncontrolling interests was $31.8 million in fiscal 2019 as compared to $26.5 million in fiscal 2018. The increase in net income attributable to noncontrolling interests in fiscal 2019 principally reflects improved operating results of certain subsidiaries of the FSG and ETG in which noncontrolling interests are held.

Net Income Attributable to HEICO

Net income attributable to HEICO increased to a record $327.9 million, or $2.39 per diluted share, in fiscal 2019, up from $259.2 million, or $1.90 per diluted share, in fiscal 2018 principally reflecting the previously mentioned increased net sales and operating income.

Outlook

As we look ahead to fiscal 2020, we anticipate net sales growth within the FSG's commercial aviation and defense product lines. We also expect growth within the ETG, principally driven by demand for the majority of our products. During fiscal 2020, we plan to continue our commitments to developing new products and services, further market penetration, and an aggressive acquisition strategy while maintaining our financial strength and flexibility. Overall, we are targeting growth in fiscal 2020 full year net sales and net income over fiscal 2019 levels. This outlook excludes the impact of additional acquired businesses, if any.

Inflation

We have generally experienced increases in our costs of labor, materials and services consistent with overall rates of inflation. The impact of such increases on net income attributable to HEICO has been generally minimized by efforts to lower costs through manufacturing efficiencies and cost reductions.

Liquidity and Capital Resources

The following table summarizes our capitalization (in thousands):

	As of October 31,	
	2019	**2018**
Cash and cash equivalents	$57,001	$59,599
Total debt (including current portion)	561,955	532,470
Shareholders’ equity	1,694,660	1,503,008
Total capitalization (debt plus equity)	2,256,615	2,035,478
Total debt to total capitalization	25%	26%

Our principal uses of cash include acquisitions, capital expenditures, cash dividends, distributions to noncontrolling interests and working capital needs. Capital expenditures in fiscal 2020 are anticipated to approximate $42 million. We finance our activities primarily from our operating and financing activities, including borrowings under our revolving credit facility.

As of December 17, 2019, we had approximately $741 million of unused committed availability under the terms of our revolving credit facility. Based on our current outlook, we believe that net cash provided by operating activities and available borrowings under our revolving credit facility will be sufficient to fund our cash requirements for at least the next twelve months.

Operating Activities

Net cash provided by operating activities was $437.4 million in fiscal 2019 and consisted primarily of net income from consolidated operations of $359.7 million, depreciation and amortization expense of $83.5 million (a non-cash item), net changes in other long-term liabilities and assets related to the HEICO Leadership Compensation Plan ("LCP") of $12.9 million (principally participant deferrals and employer contributions) and $10.3 million in share-based compensation expense (a non-cash item), partially offset by a $32.3 million increase in working capital. Net cash provided by operating activities increased by $108.9 million in fiscal 2019 from $328.5 million in fiscal 2018. The increase is principally attributable to a $74.1 million increase in net income from consolidated operations, an $18.4 million decrease in net working capital, a $6.6 million decrease in deferred income tax benefits, and a $6.3 million increase in depreciation and amortization expense. The decrease in net working capital mainly resulted from decreases in inventories and contract assets and an increase in income taxes payable, partially offset by a decrease in trade accounts payable.

Net cash provided by operating activities was $328.5 million in fiscal 2018 and consisted primarily of net income from consolidated operations of $285.7 million, depreciation and amortization expense of $77.2 million (a non-cash item) and net changes in other long-term liabilities and assets related to the HEICO LCP of $11.6 million (principally participant deferrals and employer contributions), partially offset by a $50.6 million increase in working capital mainly reflecting an increase in inventories to support the growth of our businesses and anticipated higher demand during fiscal 2019.

Investing Activities

Net cash used in investing activities totaled $280.6 million in fiscal 2019 and related primarily to acquisitions of $240.8 million (net of cash acquired), capital expenditures of $28.9 million and investments related to the HEICO LCP of $13.7 million. Further details on acquisitions may be found in Note 2, Acquisitions, of the Notes to Consolidated Financial Statement.

Net cash used in investing activities totaled $113.5 million in fiscal 2018 and related primarily to acquisitions of $59.8 million (net of cash acquired), capital expenditures of $41.9 million and investments related to the HEICO LCP of $11.5 million. Further details on acquisitions may be found in Note 2, Acquisitions, of the Notes to Consolidated Financial Statement.

Financing Activities

Net cash used in financing activities in fiscal 2019 totaled $159.7 million. During fiscal 2019, we made $283.0 million in payments on our revolving credit facility, paid $110.9 million in distributions to noncontrolling interests, redeemed common stock related to stock option exercises aggregating $64.0 million and paid $18.7 million in cash dividends on our common stock. Additionally, we borrowed $313.0 million under our revolving credit facility to fund certain of our fiscal 2019 acquisitions and a certain distribution to a noncontrolling interest holder.

Net cash used in financing activities in fiscal 2018 totaled $207.5 million. During fiscal 2018, we made payments on our revolving credit facility aggregating $204.0 million, redeemed common stock related to stock option exercises aggregating $25.0 million, paid $15.4 million in cash dividends on our common stock and made distributions to noncontrolling interests aggregating $13.1 million. Additionally, we borrowed $56.0 million on our revolving credit facility principally for tax payments, to fund a fiscal 2018 acquisition and for capital expenditures.

In November 2017, we entered into a $1.3 billion Revolving Credit Facility Agreement ("Credit Facility") with a bank syndicate, which matures in November 2022. Under certain circumstances, the maturity of the Credit Facility may be extended for two one-year periods. The Credit Facility also includes a feature that will allow us to increase the capacity by $350 million to become a $1.65 billion facility through increased commitments from existing lenders or the addition of new lenders. Borrowings under the Credit Facility may be used to finance acquisitions and for working capital and other general corporate purposes, including capital expenditures.

Borrowings under the Credit Facility accrue interest at our election of the Base Rate or the Eurocurrency Rate, plus in each case, the Applicable Rate (based on our Total Leverage Ratio). The Base Rate for any day is a fluctuating rate per annum equal to the highest of (i) the Prime Rate; (ii) the Federal Funds Rate plus .50%; and (iii) the Eurocurrency Rate for an Interest Period of one month plus 100 basis points. The Eurocurrency Rate is the rate per annum obtained by dividing LIBOR for the applicable Interest Period by a percentage equal to 1.00 minus the daily average Eurocurrency Reserve Rate for such Interest Period, as such capitalized terms are defined in the Credit Facility. The Applicable Rate for Eurocurrency Rate Loans ranges from 1.00% to 2.00%. The Applicable Rate for Base Rate Loans ranges from 0% to 1.00%. A fee is charged on the amount of the unused commitment ranging from .125% to .30% (depending on our Total Leverage Ratio). The Credit Facility also includes $100 million sublimits for borrowings made in foreign currencies and for swingline borrowings, and a $50 million sublimit for letters of credit. Outstanding principal, accrued and unpaid interest and other amounts payable under the Credit Facility may be accelerated upon an event of default, as such events are described in the Credit Facility. The Credit Facility is unsecured and contains covenants that require, among other things, the maintenance of a Total Leverage Ratio and an Interest Coverage Ratio, as such capitalized terms are defined in the Credit Facility. We were in compliance with all financial and nonfinancial covenants of the Credit Facility as of October 31, 2019.

Contractual Obligations

The following table summarizes our contractual obligations as of October 31, 2019 (in thousands):

		Payments due by fiscal period			
	Total	2020	2021 - 2022	2023 - 2024	Thereafter
Long-term debt obligations (1)	$553,320	$62	$129	$553,106	$23
Estimated interest payments (1)	50,310	16,724	33,358	228	—
Capital lease obligations (2)	10,962	1,213	2,415	1,738	5,596
Operating lease obligations (3)	76,947	15,508	29,371	13,256	18,812
Purchase obligations (4) (5) (6)	21,666	2,711	2,253	16,702	—
Other long-term liabilities (7)	8,052	1,976	2,448	1,756	1,872
Total contractual obligations	$721,257	$38,194	$69,974	$586,786	$26,303

(1) Estimated interest payments assumes the $553.0 million outstanding balance under our revolving credit facility and related interest rate of 3.0% as of October 31, 2019, will remain constant through the credit facility's maturity date in fiscal 2023. Actual interest payments may vary significantly based on future borrowings, repayments and interest rate fluctuations. See Note 5, Long-Term Debt, of the Notes to Consolidated Financial Statements and "Liquidity and Capital Resources," above for additional information regarding our long-term debt obligations.

(2) Inclusive of $2.3 million in interest charges. See Note 5, Long-Term Debt, of the Notes to Consolidated Financial Statements for additional information regarding our capital lease obligations.

(3) See Note 16, Commitments and Contingencies – Lease Commitments, of the Notes to Consolidated Financial Statements for additional information regarding our operating lease obligations.

(4) Includes contingent consideration aggregating $18.3 million related to a fiscal 2016, 2017 and 2019 acquisition. See Note 8, Fair Value Measurements, of the Notes to Consolidated Financial Statements for additional information.

(5) Also includes an aggregate $3.3 million of commitments principally for capital expenditures and inventory. All purchase obligations of inventory and supplies in the ordinary course of business (i.e., with deliveries scheduled within the next year) are excluded from the table.

(6) The holders of equity interests in certain of our subsidiaries have rights (“Put Rights”) that may be exercised on varying dates causing us to purchase their equity interests through fiscal 2029. The Put Rights provide that cash consideration be paid for their equity interests (the “Redemption Amount”). As of October 31, 2019, management’s estimate of the aggregate Redemption Amount of all Put Rights that we could be required to pay is approximately $188.3 million, which is reflected within redeemable noncontrolling interests in our Consolidated Balance Sheet. The amounts in the table do not include Put Right obligations as none of the noncontrolling interest holders have exercised their Put Rights as of October 31, 2019. See Note 12, Redeemable Noncontrolling Interests, of the Notes to Consolidated Financial Statements for further information.

(7) The amounts in the table do not include liabilities related to the HEICO LCP as they are fully supported by assets held within irrevocable trusts. See Note 3, Selected Financial Statement Information - Other Long-Term Assets and Liabilities, of the Notes to Consolidated Financial Statements for further information about this deferred compensation plan.

Off-Balance Sheet Arrangements

Guarantees

As of October 31, 2019, we have arranged for standby letters of credit aggregating $4.1 million, which are supported by our revolving credit facility and pertain to payment guarantees related to potential workers' compensation claims and a facility lease as well as performance guarantees related to customer contracts entered into by certain of our subsidiaries.

Critical Accounting Policies

We believe that the following are our most critical accounting policies, which require management to make judgments about matters that are inherently uncertain.

Assumptions utilized to determine fair value in connection with business combinations, contingent consideration arrangements and in goodwill and intangible assets impairment tests are highly judgmental. If there is a material change in such assumptions or if there is a material change in the conditions or circumstances influencing fair value, we could be required to recognize a material impairment charge. See Item 1A., *Risk Factors*, for a list of factors which may cause our actual results to differ materially from anticipated results.

Revenue Recognition

During fiscal 2019, we adopted Accounting Standards Update 2014-09, which, as amended, was codified as Accounting Standard Codification ("ASC") Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). Pursuant to ASC 606, HEICO recognizes revenue when it transfers control of a promised good or service to a customer in an amount that reflects the consideration it expects to receive in exchange for the good or service. Our performance obligations are satisfied and control is transferred either at a point-in-time or over-time. The majority of our revenue is recognized at a point-in-time when control is transferred, which is generally evidenced by the shipment or delivery of the product to the customer, a transfer of title, a transfer of the significant risks and rewards of ownership, and customer acceptance. For certain contracts under which we produce products with no alternative use and for which we have an enforceable right to recover costs incurred plus a reasonable profit margin for work completed to date and for certain other contracts under which we create or enhance a customer-owned asset while performing repair and overhaul services, control is transferred to the customer over-time. HEICO recognizes revenue using an over-time recognition model for these types of contracts.

We utilize the cost-to-cost method as a measure of progress for performance obligations that are satisfied over-time as we believe this input method best represents the transfer of control to the customer. Under this method, revenue for the current period is recorded at an amount equal to the ratio of costs incurred to date divided by total estimated contract costs multiplied by (i) the transaction price, less (ii) cumulative revenue recognized in prior periods. Contract costs include all direct material and labor costs and those indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation.

Under the cost-to-cost method, the extent of progress toward completion is measured based on the proportion of costs incurred to date to the total estimated costs at completion of the performance obligation. These projections require management to make numerous assumptions and estimates relating to items such as the complexity of design and related development costs, performance of subcontractors, availability and cost of materials, labor productivity and cost, overhead, capital costs, and manufacturing efficiency. We review our cost estimates on a periodic basis, or when circumstances change and warrant a modification to a previous estimate. Cost estimates are largely based on negotiated or estimated purchase contract terms, historical performance trends and other economic projections.

For certain contracts with similar characteristics and for which revenue is recognized using an over-time model, we use a portfolio approach to estimate the amount of revenue to recognize. For each portfolio of contracts, the respective work in process and/or finished goods inventory balances are identified and the portfolio-specific margin is applied to estimate the pro rata portion of the transaction price to recognize in relation to the costs incurred. This approach is utilized only when the resulting revenue recognition is not expected to be materially different than if the accounting was applied to the individual contracts.

Certain of our contracts give rise to variable consideration when they contain items such as customer rebates, credits, volume purchase discounts, penalties and other provisions that may impact the total consideration we will receive. We include variable consideration in the transaction price generally by applying the most likely amount method of the consideration that we expect to be entitled to receive based on an assessment of all available information (i.e., historical experience, current and forecasted performance) and only to the extent it is probable that a significant reversal of revenue recognized will not occur when the uncertainty is resolved. We estimate variable consideration by applying the most likely amount method when there are a limited number of outcomes related to the resolution of the variable consideration.

Changes in estimates that result in adjustments to net sales and cost of sales are recognized as necessary in the period they become known on a cumulative catch-up basis. Changes in estimates did not have a material effect on net income from consolidated operations in fiscal 2019, 2018 and 2017.

Valuation of Inventory

Inventory is stated at the lower of cost or net realizable value, with cost being determined on the first-in, first-out or the average cost basis. Losses, if any, are recognized fully in the period when identified.

We periodically evaluate the carrying value of inventory, giving consideration to factors such as its physical condition, sales patterns and expected future demand in order to estimate the amount necessary to write down any slow moving, obsolete or damaged inventory. These estimates could vary significantly from actual amounts based upon future economic conditions, customer inventory levels, or competitive factors that were not foreseen or did not exist when the estimated write-downs were made.

In accordance with industry practice, all inventories are classified as a current asset including portions with long production cycles, some of which may not be realized within one year.

Business Combinations

We allocate the purchase price of acquired entities to the underlying tangible and identifiable intangible assets acquired and liabilities and any noncontrolling interests assumed based on their estimated fair values, with any excess recorded as goodwill. Determining the fair value of assets acquired and liabilities and noncontrolling interests assumed requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, asset lives and market multiples, among other items. We determine the fair values of intangible assets acquired generally in consultation with third-party valuation advisors.

As part of the agreement to acquire certain subsidiaries, we may be obligated to pay contingent consideration should the acquired entity meet certain earnings objectives subsequent to the date of acquisition. As of the acquisition date, contingent consideration is recorded at fair value as determined through the use of a probability-based scenario analysis approach. Under this method, a set of discrete potential future subsidiary earnings is determined using internal estimates based on various revenue growth rate assumptions for each scenario. A probability of likelihood is then assigned to each discrete potential future earnings estimate and the resultant contingent consideration is calculated and discounted using a weighted average discount rate reflecting the credit risk of HEICO. Subsequent to the acquisition date, the fair value of such contingent consideration is measured each reporting period and any changes are recorded to SG&A expenses within our Consolidated Statements of Operations. Changes in either the revenue growth rates, related earnings or the discount rate could result in a material change to the amount of contingent consideration accrued. As of October 31, 2019, 2018 and 2017, $18.3 million, $20.9 million and $27.6 million of contingent consideration was accrued within our Consolidated Balance Sheets, respectively. During fiscal 2019, 2018 and 2017, such fair value measurement adjustments resulted in net increases (decreases) to SG&A expenses of $2.6 million, ($1.4) million and $1.1 million, respectively. For further information regarding our contingent consideration arrangements, see Note 8, Fair Value Measurements, of the Notes to Consolidated Financial Statements.

Valuation of Goodwill and Other Intangible Assets

We test goodwill for impairment annually as of October 31, or more frequently if events or changes in circumstances indicate that the carrying amount of goodwill may not be fully recoverable. In evaluating the recoverability of goodwill, we compare the fair value of each of our reporting units to its carrying value to determine potential impairment. If the carrying value of a reporting unit exceeds its fair value, the implied fair value of that reporting unit's goodwill is to be calculated and an impairment loss is recognized in the amount by which the carrying value of the reporting unit's goodwill exceeds its implied fair value, if any. The fair values of our reporting units were determined using a weighted average of a market approach and an income approach. Under the market approach, fair values are estimated using published market multiples for comparable companies. We calculate fair values under the income approach by taking estimated future cash flows that are based on internal projections and other assumptions deemed reasonable by management and discounting them using an estimated weighted average cost of capital. Based on the annual goodwill impairment test as of October 31, 2019, 2018 and 2017, we determined there was no impairment of our goodwill. The fair value of each of our reporting units as of October 31, 2019 significantly exceeded its carrying value.

We test each non-amortizing intangible asset (principally trade names) for impairment annually as of October 31, or more frequently if events or changes in circumstances indicate that the asset might be impaired. To derive the fair value of our trade names, we utilize an income approach, which relies upon management's assumptions of royalty rates, projected revenues and discount rates. We also test each amortizing intangible asset for impairment if events or circumstances indicate that the asset might be impaired. The test consists of determining whether the carrying value of such assets will be recovered through undiscounted expected future cash flows. If the total of the undiscounted future cash flows is less than the carrying amount of those assets, we recognize an impairment loss based on the excess of the carrying amount over the fair value of the assets. The determination of fair value requires us to make a number of estimates, assumptions and judgments of underlying factors such as projected revenues and related earnings as well as discount rates. Based on the intangible asset impairment tests conducted, we did not recognize any impairment losses in fiscal 2019, 2018 and 2017.

New Accounting Pronouncements

See Note 1, Summary of Significant Accounting Policies - New Accounting Pronouncements, of the Notes to Consolidated Financial Statements for additional information.

Forward-Looking Statements

Certain statements in this report constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained herein that are not clearly historical in nature may be forward-looking and the words "anticipate," "believe," "expect," "estimate" and similar expressions are generally intended to identify forward-looking statements. Any forward-looking statement contained herein, in press releases, written statements or other documents filed with the Securities and Exchange Commission or in communications and discussions with investors and analysts in the normal course of business through meetings, phone calls and conference calls, concerning our operations, economic performance and financial condition are subject to risks, uncertainties and contingencies. We have based these forward-looking statements on our current expectations and projections about future events. All forward-looking statements involve risks and uncertainties, many of which are beyond our control, which may cause actual results, performance or achievements to differ materially from anticipated results, performance or achievements. Also, forward-looking statements are based upon management's estimates of fair values and of future costs, using currently available information. Therefore, actual results may differ materially from those expressed in or implied by those forward-looking statements. Factors that could cause such differences include:

- Lower demand for commercial air travel or airline fleet changes or airline purchasing decisions, which could cause lower demand for our goods and services;
- Product specification costs and requirements, which could cause an increase to our costs to complete contracts;

- Governmental and regulatory demands, export policies and restrictions, reductions in defense, space or homeland security spending by U.S. and/or foreign customers or competition from existing and new competitors, which could reduce our sales;

- Our ability to introduce new products and services at profitable pricing levels, which could reduce our sales or sales growth;

- Product development or manufacturing difficulties, which could increase our product development costs and delay sales;

- Our ability to make acquisitions and achieve operating synergies from acquired businesses; customer credit risk; interest, foreign currency exchange and income tax rates; economic conditions within and outside of the aviation, defense, space, medical, telecommunications and electronics industries, which could negatively impact our costs and revenues; and

- Defense spending or budget cuts, which could reduce our defense-related revenue.

For further information on these and other factors that potentially could materially affect our financial results, see Item 1A, *Risk Factors*. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except to the extent required by applicable law.

Item 7A. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

Interest Rate Risk

We have exposure to interest rate risk, mainly related to our revolving credit facility, which has variable interest rates. Interest rate risk associated with our variable rate debt is the potential increase in interest expense from an increase in interest rates. Based on our aggregate outstanding variable rate debt balance of $553.0 million as of October 31, 2019, a hypothetical 10% increase in interest rates would not have a material effect on our results of operations, financial position or cash flows. We also maintain a portion of our cash and cash equivalents in financial instruments with original maturities of three months or less. These financial instruments are subject to interest rate risk and will decline in value if interest rates increase. Due to the short duration of these financial instruments, a hypothetical 10% increase in interest rates as of October 31, 2019 would not have a material effect on our results of operations, financial position or cash flows.

Foreign Currency Risk

We have several foreign subsidiaries that conduct a portion of their operations in currencies other than the U.S. dollar, or principally in Euros. Accordingly, changes in exchange rates between such foreign currencies and the U.S. dollar will affect the translation of the financial results of our foreign subsidiaries into the U.S. dollar for purposes of reporting our consolidated financial results. A hypothetical 10% weakening in the exchange rate of the Euro to the U.S. dollar as of October 31, 2019 would not have a material effect on our results of operations, financial position or cash flows.

Item 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

HEICO CORPORATION AND SUBSIDIARIES
INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
HEICO Corporation
Hollywood, Florida

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of HEICO Corporation and subsidiaries (the "Company") as of October 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows, for each of the three years in the period ended October 31, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of October 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended October 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of October 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated December 19, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the Finance/Audit Committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Inventories, net - Refer to Notes 1 and 3 to the financial statements

Critical Audit Matter Description

Inventory is stated at the lower of cost or net realizable value. The Company periodically evaluates the carrying value of inventory, which requires management to make significant estimates and assumptions related to sales patterns and expected future demand in order to estimate the amount necessary to write down any slow moving or obsolete inventory. Changes in the assumptions related to future demand and sales patterns could have a significant impact on the valuation of finished goods inventory for certain of the Company's aftermarket replacement parts business units in the Flight Support Group operating segment.

Given the magnitude of the inventory balances at these business units, coupled with the judgments necessary to project sales patterns and expected future demand within these aftermarket replacement parts business units, auditing such estimates required a high degree of auditor judgment and an increased extent of effort when performing audit procedures and evaluating the results of those procedures.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the expected future demand and sales patterns used by management to estimate the valuation reserve on inventory included the following, among others:

- We tested the effectiveness of controls, including those related to evaluating the reasonableness of expected future demand and sales patterns.

- We evaluated the reasonableness of management's assumptions of future demand and sales patterns by performing the following:

    - Utilized historical inventory usage data to analyze the relationship between the inventory valuation reserve calculated, the inventory on hand, and the sales trends over time.

    - Evaluated management's ability to accurately estimate future demand by comparing actual inventory sales to estimates made in prior years.

    - Compared management's assumptions to available external market data for certain inventory items.

    - Evaluated the accuracy and completeness of the valuation reserve by selecting a sample of inventory items and obtaining supporting documentation regarding current and historical sales patterns.

- We tested declines in the inventory valuation reserve and evaluated whether such declines were the result of the sale or write off of inventory parts or the result of changes in the significant assumptions used to develop the valuation reserve.

/s/ DELOITTE & TOUCHE LLP

Miami, Florida
December 19, 2019

We have served as the Company's auditor since 1990.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	As of October 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents	$57,001	$59,599
Accounts receivable, net	274,326	237,286
Contract assets	43,132	14,183
Inventories, net	420,319	401,553
Prepaid expenses and other current assets	18,953	21,187
Total current assets	813,731	733,808
Property, plant and equipment, net	173,345	154,739
Goodwill	1,268,703	1,114,832
Intangible assets, net	550,693	506,360
Other assets	162,739	143,657
Total assets	$2,969,211	$2,653,396
LIABILITIES AND EQUITY		
Current liabilities:		
Current maturities of long-term debt	$906	$859
Trade accounts payable	106,225	107,219
Accrued expenses and other current liabilities	178,957	171,514
Income taxes payable	3,050	2,837
Total current liabilities	289,138	282,429
Long-term debt, net of current maturities	561,049	531,611
Deferred income taxes	51,496	46,644
Other long-term liabilities	184,604	157,658
Total liabilities	1,086,287	1,018,342
Commitments and contingencies (Note 16)		
Redeemable noncontrolling interests (Note 12)	188,264	132,046
Shareholders' equity:		
Preferred Stock, $.01 par value per share; 10,000 shares authorized; none issued	—	—
Common Stock, $.01 par value per share; 150,000 shares authorized; 54,143 and 53,355 shares issued and outstanding	541	534
Class A Common Stock, $.01 par value per share; 150,000 shares authorized; 80,353 and 79,576 shares issued and outstanding	804	796
Capital in excess of par value	284,609	320,994
Deferred compensation obligation	4,232	3,928
HEICO stock held by irrevocable trust	(4,232)	(3,928)
Accumulated other comprehensive loss	(16,739)	(15,256)
Retained earnings	1,397,327	1,091,183
Total HEICO shareholders' equity	1,666,542	1,398,251
Noncontrolling interests	28,118	104,757
Total shareholders' equity	1,694,660	1,503,008
Total liabilities and equity	$2,969,211	$2,653,396

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year ended October 31,		
	2019	2018	2017
Net sales	$2,055,647	$1,777,721	$1,524,813
Operating costs and expenses:			
Cost of sales	1,241,807	1,087,006	950,088
Selling, general and administrative expenses	356,743	314,470	268,067
Total operating costs and expenses	1,598,550	1,401,476	1,218,155
Operating income	457,097	376,245	306,658
Interest expense	(21,695)	(19,901)	(9,790)
Other income (expense)	2,439	(58)	1,092
Income before income taxes and noncontrolling interests	437,841	356,286	297,960
Income tax expense	78,100	70,600	90,300
Net income from consolidated operations	359,741	285,686	207,660
Less: Net income attributable to noncontrolling interests	31,845	26,453	21,675
Net income attributable to HEICO	$327,896	$259,233	$185,985
Net income per share attributable to HEICO shareholders:			
Basic	$2.45	$1.96	$1.41
Diluted	$2.39	$1.90	$1.37
Weighted average number of common shares outstanding:			
Basic	133,640	132,543	131,703
Diluted	137,350	136,696	135,588

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Year ended October 31,		
	2019	2018	2017
Net income from consolidated operations	$359,741	$285,686	$207,660
Other comprehensive (loss) income:			
Foreign currency translation adjustments	(844)	(5,243)	15,346
Unrealized (loss) gain on defined benefit pension plan, net of tax	(889)	(97)	321
Amortization of unrealized loss on defined benefit pension plan, net of tax	25	13	29
Total other comprehensive (loss) income	(1,708)	(5,327)	15,696
Comprehensive income from consolidated operations	358,033	280,359	223,356
Net income attributable to noncontrolling interests	31,845	26,453	21,675
Foreign currency translation adjustments attributable to noncontrolling interests	(225)	(406)	926
Comprehensive income attributable to noncontrolling interests	31,620	26,047	22,601
Comprehensive income attributable to HEICO	$326,413	$254,312	$200,755

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(in thousands, except per share data)

	Redeemable Noncontrolling Interests	HEICO Shareholders' Equity: Common Stock	Class A Common Stock	Capital in Excess of Par Value	Deferred Compensation Obligation	HEICO Stock Held by Irrevocable Trust	Accumulated Other Comprehensive Loss	Retained Earnings	Noncontrolling Interests	Total Shareholders' Equity
Balances as of October 31, 2018	$132,046	$534	$796	$320,994	$3,928	($3,928)	($15,256)	$1,091,183	$104,757	$1,503,008
Cumulative effect from adoption of ASC 606 (see Note 1)	819	—	—	—	—	—	—	13,373	326	13,699
Comprehensive income	18,116	—	—	—	—	—	(1,483)	327,896	13,504	339,917
Cash dividends ($.14 per share)	—	—	—	—	—	—	—	(18,691)	—	(18,691)
Issuance of common stock to HEICO Savings and Investment Plan	—	—	—	8,666	—	—	—	—	—	8,666
Share-based compensation expense	—	—	—	10,334	—	—	—	—	—	10,334
Proceeds from stock option exercises	—	12	8	8,527	—	—	—	—	—	8,547
Redemptions of common stock related to stock option exercises	—	(5)	(1)	(64,008)	—	—	—	—	—	(64,014)
Distributions to noncontrolling interests	(17,847)	—	—	—	—	—	—	—	(93,022)	(93,022)
Noncontrolling interests assumed related to acquisitions	38,696	—	—	—	—	—	—	—	2,551	2,551
Adjustments to redemption amount of redeemable noncontrolling interests	16,434	—	—	—	—	—	—	(16,434)	—	(16,434)
Deferred compensation obligation	—	—	—	—	304	(304)	—	—	—	—
Other	—	—	1	96	—	—	—	—	2	99
Balances as of October 31, 2019	$188,264	$541	$804	$284,609	$4,232	($4,232)	($16,739)	$1,397,327	$28,118	$1,694,660

	Redeemable Noncontrolling Interests	HEICO Shareholders' Equity: Common Stock	Class A Common Stock	Capital in Excess of Par Value	Deferred Compensation Obligation	HEICO Stock Held by Irrevocable Trust	Accumulated Other Comprehensive Loss	Retained Earnings	Noncontrolling Interests	Total Shareholders' Equity
Balances as of October 31, 2017	$131,123	$338	$507	$326,544	$3,118	($3,118)	($10,556)	$844,247	$87,212	$1,248,292
Comprehensive income	13,070	—	—	—	—	—	(4,921)	259,233	12,977	267,289
Cash dividends ($.116 per share)	—	—	—	—	—	—	—	(15,363)	—	(15,363)
Five-for-four common stock splits	—	191	286	(477)	—	—	—	(28)	—	(28)
Issuance of common stock to HEICO Savings and Investment Plan	—	1	1	7,868	—	—	—	—	—	7,870
Share-based compensation expense	—	—	—	9,283	—	—	—	—	—	9,283
Proceeds from stock option exercises	—	7	2	4,022	—	—	—	—	—	4,031
Redemptions of common stock related to stock option exercises	—	(3)	—	(24,980)	—	—	—	—	—	(24,983)
Noncontrolling interests assumed related to acquisitions	2,491	—	—	—	—	—	—	—	5,350	5,350
Distributions to noncontrolling interests	(12,005)	—	—	—	—	—	—	—	(1,054)	(1,054)
Adjustments to redemption amount of redeemable noncontrolling interests	(3,627)	—	—	—	—	—	—	3,627	—	3,627
Deferred compensation obligation	—	—	—	—	810	(810)	—	—	—	—
Other	994	—	—	(1,266)	—	—	221	(533)	272	(1,306)
Balances as of October 31, 2018	$132,046	$534	$796	$320,994	$3,928	($3,928)	($15,256)	$1,091,183	$104,757	$1,503,008

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(in thousands, except per share data)

		HEICO Shareholders' Equity								
	Redeemable Noncontrolling Interests	Common Stock	Class A Common Stock	Capital in Excess of Par Value	Deferred Compensation Obligation	HEICO Stock Held by Irrevocable Trust	Accumulated Other Comprehensive Loss	Retained Earnings	Noncontrolling Interests	Total Shareholders' Equity
Balances as of October 31, 2016	$99,512	$270	$403	$306,328	$2,460	($2,460)	($25,326)	$681,704	$84,326	$1,047,705
Comprehensive income	11,637	—	—	—	—	—	14,770	185,985	10,964	211,719
Cash dividends ($.097 per share)	—	—	—	—	—	—	—	(12,807)	—	(12,807)
Five-for-four common stock split	—	68	101	(169)	—	—	—	(23)	—	(23)
Issuance of common stock to HEICO Savings and Investment Plan	—	—	—	7,517	—	—	—	—	—	7,517
Share-based compensation expense	—	—	—	7,415	—	—	—	—	—	7,415
Proceeds from stock option exercises	—	—	3	5,656	—	—	—	—	—	5,659
Noncontrolling interests assumed related to acquisitions	23,339	—	—	—	—	—	—	—	—	—
Distributions to noncontrolling interests	(10,323)	—	—	—	—	—	—	—	(8,078)	(8,078)
Acquisitions of noncontrolling interests	(3,848)	—	—	—	—	—	—	194	—	194
Adjustments to redemption amount of redeemable noncontrolling interests	10,806	—	—	—	—	—	—	(10,806)	—	(10,806)
Deferred compensation obligation	—	—	—	—	658	(658)	—	—	—	—
Other	—	—	—	(203)	—	—	—	—	—	(203)
Balances as of October 31, 2017	$131,123	$338	$507	$326,544	$3,118	($3,118)	($10,556)	$844,247	$87,212	$1,248,292

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year ended October 31,		
	2019	2018	2017
Operating Activities:			
Net income from consolidated operations	$359,741	$285,686	$207,660
Adjustments to reconcile net income from consolidated operations to net cash provided by operating activities:			
Depreciation and amortization	83,497	77,191	64,823
Share-based compensation expense	10,334	9,283	7,415
Employer contributions to HEICO Savings and Investment Plan	9,528	8,019	7,768
Increase (decrease) in accrued contingent consideration, net	2,630	(1,365)	1,100
Deferred income tax benefit	(6,392)	(12,977)	(11,096)
Payment of contingent consideration	(3,105)	—	—
Changes in operating assets and liabilities, net of acquisitions:			
(Increase) decrease in accounts receivable	(28,976)	(23,763)	7,384
Decrease (increase) in contract assets	11,583	(4,806)	(4,538)
Increase in inventories	(30,077)	(49,455)	(21,204)
Decrease in prepaid expenses and other current assets	609	401	134
(Decrease) increase in trade accounts payable	(3,851)	17,403	6,386
Increase in accrued expenses and other current liabilities	17,151	22,121	1,794
Increase (decrease) in income taxes payable	1,296	(12,530)	6,071
Net changes in other long-term liabilities and assets related to HEICO Leadership Compensation Plan	12,920	11,610	12,841
Other	490	1,669	1,747
Net cash provided by operating activities	437,378	328,487	288,285
Investing Activities:			
Acquisitions, net of cash acquired	(240,841)	(59,775)	(418,265)
Capital expenditures	(28,938)	(41,871)	(25,998)
Investments related to HEICO Leadership Compensation Plan, net	(13,701)	(11,500)	(13,400)
Other	2,834	(365)	(552)
Net cash used in investing activities	(280,646)	(113,511)	(458,215)
Financing Activities:			
Borrowings on revolving credit facility	313,000	56,000	404,000
Payments on revolving credit facility	(283,000)	(204,000)	(190,877)
Distributions to noncontrolling interests	(110,869)	(13,059)	(18,401)
Redemptions of common stock related to stock option exercises	(64,014)	(24,983)	(203)
Cash dividends paid	(18,691)	(15,363)	(12,807)
Payment of contingent consideration	(4,073)	(5,425)	(7,039)
Revolving credit facility issuance costs	—	(4,067)	(270)
Acquisitions of noncontrolling interests	—	—	(3,848)
Proceeds from stock option exercises	8,547	4,031	5,659
Other	(620)	(669)	(342)
Net cash (used in) provided by financing activities	(159,720)	(207,535)	175,872
Effect of exchange rate changes on cash	390	92	3,169
Net (decrease) increase in cash and cash equivalents	(2,598)	7,533	9,111
Cash and cash equivalents at beginning of year	59,599	52,066	42,955
Cash and cash equivalents at end of year	$57,001	$59,599	$52,066

The accompanying notes are an integral part of these consolidated financial statements.

HEICO CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

HEICO Corporation, through its principal subsidiaries consisting of HEICO Aerospace Holdings Corp. (“HEICO Aerospace”), HEICO Flight Support Corp. and HEICO Electronic Technologies Corp. (“HEICO Electronic”) and their respective subsidiaries (collectively, the “Company”), is principally engaged in the design, manufacture and sale of aerospace, defense and electronic related products and services throughout the United States ("U.S.") and internationally. The Company’s customer base is primarily the aviation, defense, space, medical, telecommunications and electronics industries.

Basis of Presentation

The Company has two operating segments: the Flight Support Group (“FSG”), consisting of HEICO Aerospace and HEICO Flight Support Corp. and their respective subsidiaries; and the Electronic Technologies Group (“ETG”), consisting of HEICO Electronic and its subsidiaries.

Certain prior year amounts have been reclassified to conform to the current year presentation principally to reflect the adoption of Accounting Standards Update ("ASU") 2014-09, "Revenue from Contracts with Customers," in the first quarter of fiscal 2019.

The consolidated financial statements include the financial accounts of HEICO Corporation and its direct subsidiaries, all of which are wholly owned except for HEICO Aerospace, which is 20% owned by Lufthansa Technik AG ("LHT"), the technical services subsidiary of Lufthansa German Airlines. HEICO Flight Support Corp. consolidates three subsidiaries which are 80%, 82.3% and 84%, owned, respectively, and six subsidiaries that are each 80.1% owned. In addition, HEICO Aerospace consolidates a joint venture, which is 84% owned. HEICO Electronic consolidates seven subsidiaries, which are 75.0%, 80.1%, 80.1%, 82.5%, 85.0%, 92.7% and 95.9% owned, respectively. Certain subsidiaries of HEICO Electronic consolidate subsidiaries that are less than wholly owned. See Note 12, Redeemable Noncontrolling Interests. All intercompany balances and transactions are eliminated.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the consolidated financial statements, the Company considers all highly liquid investments such as U.S. Treasury bills and money market funds with an original maturity of three months or less at the time of purchase to be cash equivalents.

Accounts Receivable

Accounts receivable consist of amounts billed and currently due from customers. The valuation of accounts receivable requires that the Company set up an allowance for estimated uncollectible accounts and record a corresponding charge to bad debt expense. The Company estimates uncollectible receivables based on such factors as its prior experience, its appraisal of a customer's ability to pay, age of receivables outstanding and economic conditions within and outside of the aviation, defense, space, medical, telecommunications and electronics industries.

Contract Assets

Contract assets (unbilled receivables) represent revenue recognized on contracts using an over-time recognition model in excess of amounts invoiced to the customer. See Note 6, Revenue, for additional information regarding the Company's contract assets.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of temporary cash investments and trade accounts receivable. The Company places its temporary cash investments with high credit quality financial institutions and limits the amount of credit exposure to any one financial institution. Concentrations of credit risk with respect to trade receivables are limited due to the large number of customers comprising the Company's customer base and their dispersion across many different geographical regions. The Company performs ongoing credit evaluations of its customers, but does not generally require collateral to support customer receivables.

Inventory

Inventory is stated at the lower of cost or net realizable value, with cost being determined on the first-in, first-out or the average cost basis. Losses, if any, are recognized fully in the period when identified. The Company periodically evaluates the carrying value of inventory, giving consideration to factors such as its physical condition, sales patterns and expected future demand in order to estimate the amount necessary to write down any slow moving, obsolete or damaged inventory. These estimates could vary significantly from actual amounts based upon future economic conditions, customer inventory levels or competitive factors that were not foreseen or did not exist when the estimated write-downs were made. In accordance with industry practice, all inventories are classified as a current asset including portions with long production cycles, some of which may not be realized within one year.

Property, Plant and Equipment

Property, plant and equipment is recorded at cost. Depreciation and amortization is generally provided on the straight-line method over the estimated useful lives of the various assets. The Company’s property, plant and equipment is generally depreciated over the following estimated useful lives:

Buildings and improvements	10	to	40	years
Machinery and equipment	3	to	10	years
Leasehold improvements	2	to	20	years
Tooling	2	to	5	years

The costs of major additions and improvements are capitalized. Leasehold improvements are amortized over the shorter of the leasehold improvement’s useful life or the lease term. Repairs and maintenance costs are expensed as incurred. Upon an asset's disposition, its cost and related accumulated depreciation are removed from the financial accounts and any resulting gain or loss is reflected within earnings.

Capital Leases

Assets acquired under capital leases are recorded at the lower of the asset's fair value or the present value of the future minimum lease payments, excluding any portion of the lease payments representing executory costs. The discount rate used in determining the present value of the minimum lease payments is the lower of the rate implicit in the lease or the Company's incremental borrowing rate. Assets under capital leases are included in property, plant and equipment and are depreciated over the shorter of the lease term or the useful life of the leased asset. Lease payments under capital leases are recognized as a reduction of the capital lease obligation and as interest expense.

Business Combinations

The Company allocates the purchase price of acquired entities to the underlying tangible and identifiable intangible assets acquired and liabilities and any noncontrolling interests assumed based on their estimated fair values, with any excess recorded as goodwill. The operating results of acquired businesses are included in the Company’s results of operations beginning as of their effective acquisition dates. Acquisition costs are generally expensed as incurred and totaled $3.2 million in fiscal 2019. Acquisition costs were not material in fiscal 2018 or 2017.

For contingent consideration arrangements, a liability is recognized at fair value as of the acquisition date with subsequent fair value adjustments recorded in operations. Additional information regarding the Company's contingent consideration arrangements may be found in Note 2, Acquisitions, and Note 8, Fair Value Measurements.

Goodwill and Other Intangible Assets

The Company tests goodwill for impairment annually as of October 31, or more frequently if events or changes in circumstances indicate that the carrying amount of goodwill may not be fully recoverable. In evaluating the recoverability of goodwill, the Company compares the fair value of each of its reporting units to its carrying value to determine potential impairment. If the carrying value of a reporting unit exceeds its fair value, the implied fair value of that reporting unit's goodwill is to be calculated and an impairment loss is recognized in the amount by which the carrying value of the reporting unit's goodwill exceeds its implied fair value, if any. The fair values of the Company's reporting units are determined by using a weighted average of a market approach and an income approach. Under the market approach, fair values are estimated using published market multiples for comparable companies. The Company calculates fair values under the income approach by taking estimated future cash flows that are based on internal projections and other assumptions deemed reasonable by management and discounting them using an estimated weighted average cost of capital.

The Company's intangible assets not subject to amortization consist principally of its trade names. The Company's intangible assets subject to amortization are amortized on the straight-line method (except for certain customer relationships amortized on an accelerated method) over the following estimated useful lives:

Customer relationships	4	to	15	years
Intellectual property	4	to	22	years
Licenses	10	to	11	years
Patents	5	to	20	years
Trade names	8	to	15	years

Amortization expense of intellectual property, licenses and patents is recorded as a component of cost of sales, and amortization expense of customer relationships, non-compete agreements and trade names is recorded as a component of selling, general and administrative ("SG&A") expenses in the Company's Consolidated Statements of Operations. The Company tests each non-amortizing intangible asset for impairment annually as of October 31, or more frequently if events or changes in circumstances indicate that the asset might be impaired. To derive the fair value of its trade names, the Company utilizes an income approach, which relies upon management's assumptions of royalty rates, projected revenues and discount rates. The Company also tests each amortizing intangible asset for impairment if events or circumstances indicate that the asset might be impaired. The test consists of determining whether the carrying value of such assets will be recovered through undiscounted expected future cash flows. If the total of the undiscounted future cash flows is less than the carrying amount of those assets, the Company recognizes an impairment loss based on the excess of the carrying amount over the fair value of the assets. The determination of fair value requires management to make a number of estimates, assumptions and judgments of such factors as projected revenues and earnings and discount rates.

Customer Rebates and Credits

The Company records accrued customer rebates and credits as a component of accrued expenses and other current liabilities in its Consolidated Balance Sheets. These amounts generally relate to discounts negotiated with customers as part of certain sales contracts that are usually tied to sales volume thresholds. The Company accrues customer rebates and credits as a reduction within net sales as the revenue is recognized based on the estimated level of discount rate expected to be earned by each customer over the life of the contractual rebate period (generally one year). Accrued customer rebates and credits are monitored by management and discount levels are updated at least quarterly.

Product Warranties

Product warranty liabilities are estimated at the time of shipment and recorded as a component of accrued expenses and other current liabilities in the Company’s Consolidated Balance Sheets. The amount recognized is based on historical claims experience.

Defined Benefit Pension Plan

In connection with a prior year acquisition, the Company assumed a frozen qualified defined benefit pension plan (the "Plan"). The Plan's benefits are based on employee compensation and years of service; however, the accrued benefit for Plan participants was fixed as of the date of acquisition. The Company uses an actuarial valuation to determine the projected benefit obligation of the Plan and records the difference between the fair value of the Plan's assets and the projected benefit obligation as of October 31 in other long-term liabilities in its Consolidated Balance Sheets. Additionally, any actuarial gain or loss that arises during a fiscal year that is not recognized as a component of net periodic pension income or expense is recorded as a component of other comprehensive income or (loss), net of tax. The following table presents the fair value of the Plan's assets and projected benefit obligation as of October 31, for each of the last two fiscal years (in thousands):

	As of October 31,	
	2019	**2018**
Fair value of plan assets	$11,311	$10,379
Projected benefit obligation	13,943	12,890
Funded status	($2,632)	($2,511)

Revenue Recognition

During fiscal 2019, the Company adopted ASU 2014-09, which, as amended, was codified as Accounting Standard Codification ("ASC") Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). Pursuant to ASC 606, the Company recognizes revenue when it transfers control of a promised good or service to a customer in an amount that reflects the consideration it expects to receive in exchange for the good or service. The Company's performance obligations are satisfied and control is transferred either at a point-in-time or over-time. The majority of the Company's revenue is recognized at a point-in-time when control is transferred, which is generally evidenced by the shipment or delivery of the product to the customer, a transfer of title, a transfer of the significant risks and rewards of ownership, and customer acceptance. For certain contracts under which the Company produces products with no alternative use and for which it has an enforceable right to recover costs incurred plus a reasonable profit margin for work completed to date and for certain other contracts under which the Company creates or enhances a customer-owned asset while performing repair and overhaul services, control is transferred to the customer over-time. The Company recognizes revenue using an over-time recognition model for these types of contracts.   See Note 1, Summary of Significant Accounting Policies - New Accounting Pronouncements, and Note 6, Revenue, for additional information regarding the Company's revenue recognition policy.

Stock-Based Compensation

The Company records compensation expense associated with stock options in its Consolidated Statements of Operations based on the grant date fair value of those awards. The fair value of each stock option on the date of grant is estimated using the Black-Scholes pricing model based on certain valuation assumptions. Expected stock price volatility is based on the Company's historical stock prices over the contractual term of the option grant and other factors. The risk-free interest rate used is based on the published U.S. Treasury yield curve in effect at the time of the option grant for instruments with a similar life. The dividend yield reflects the Company's expected dividend yield at the date of grant. The expected option life represents the period of time that the stock options are expected to be outstanding, taking into consideration the contractual term of the option grant and employee historical exercise behavior. The Company generally recognizes stock option compensation expense ratably over the award's vesting period.

Income Taxes

Income tax expense includes U.S. and foreign income taxes. Deferred income taxes are provided on elements of income that are recognized for financial reporting purposes in periods different from when recognized for income tax purposes. Deferred tax assets and liabilities are recognized for the tax effects of temporary differences between the financial reporting and income tax bases of assets and liabilities and are measured using enacted tax rates in effect for the year in which the differences are expected to reverse. Tax law and rate changes are reflected in income in the period such changes are enacted. The Company's policy is to recognize interest and penalties related to income tax matters as a component of income tax expense and to treat any tax on Global Intangible Low-Taxed Income ("GILTI") as a current period income tax expense. Further information regarding income taxes can be found in Note 7, Income Taxes.

Redeemable Noncontrolling Interests

As further detailed in Note 12, Redeemable Noncontrolling Interests, the holders of equity interests in certain of the Company's subsidiaries have rights ("Put Rights") that require the Company to provide cash consideration for their equity interests (the "Redemption Amount") at fair value or at a formula that management intended to reasonably approximate fair value based solely on a multiple of future earnings over a measurement period. The Put Rights are embedded in the shares owned by the noncontrolling interest holders and are not freestanding. The Company tracks the carrying cost of such redeemable noncontrolling interests at historical cost plus an allocation of subsidiary earnings based on ownership interest, less dividends paid to the noncontrolling interest holders. Redeemable noncontrolling interests are recorded outside of permanent equity at the higher of their carrying cost or management's estimate of the Redemption Amount. The initial adjustment to record redeemable noncontrolling interests at the Redemption Amount results in a corresponding decrease to retained earnings. Subsequent adjustments to the Redemption Amount of redeemable noncontrolling interests may result in corresponding decreases or increases to retained earnings, provided any increases to retained earnings may only be recorded to the extent of decreases previously recorded. Adjustments to Redemption Amounts based on fair value will have no effect on net income per share attributable to HEICO shareholders whereas the portion of periodic adjustments to the carrying amount of redeemable noncontrolling interests based solely on a multiple of future earnings that reflect a redemption amount in excess of fair value will affect net income per share attributable to HEICO shareholders. Acquisitions of redeemable noncontrolling interests are treated as equity transactions.

Net Income per Share Attributable to HEICO Shareholders

Basic net income per share attributable to HEICO shareholders is computed by dividing net income attributable to HEICO by the weighted average number of common shares outstanding during the period. Diluted net income per share attributable to HEICO shareholders is computed by dividing net income attributable to HEICO by the weighted average number of common shares outstanding during the period plus potentially dilutive common shares arising from the assumed exercise of stock options, if dilutive. The dilutive impact of potentially dilutive common shares is determined by applying the treasury stock method.

Foreign Currency

All assets and liabilities of foreign subsidiaries that do not utilize the U.S. dollar as its functional currency are translated at period-end exchange rates, while revenue and expenses are translated using average exchange rates for the period. Unrealized translation gains or losses are reported as foreign currency translation adjustments through other comprehensive income or (loss) in shareholders' equity. Transaction gains or losses related to monetary balances denominated in a currency other than the functional currency are recorded in the Company's Consolidated Statements of Operations.

Contingencies

Losses for contingencies such as product warranties, litigation and environmental matters are recognized in income when they are probable and can be reasonably estimated. Gain contingencies are not recognized in income until they have been realized.

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU 2014-09, which, as amended, was codified as ASC Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). ASC 606 provides a comprehensive new revenue recognition model that supersedes nearly all existing revenue recognition guidance. Under ASC 606, an entity recognizes revenue when it transfers promised goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. The guidance also requires additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts.

The Company adopted ASC 606 as of November 1, 2018 using the modified retrospective method and recognized the cumulative effect of initially applying ASC 606 to all uncompleted contracts on the date of adoption as an adjustment to the opening balance of retained earnings. The comparative information has not been restated and remains as previously reported in accordance with ASC Topic 605, "Revenue Recognition."

ASC 606 impacts the timing of revenue recognition for certain contracts under which the Company produces products with no alternative use and for which it has an enforceable right to recover costs incurred plus a reasonable profit margin for work completed to date. ASC 606 also impacts the timing of revenue recognition for certain other contracts under which the Company creates or enhances customer-owned assets while performing repair and overhaul services. For these two types of contracts, the Company now recognizes revenue using an over-time recognition model as opposed to generally recognizing revenue at the time of shipment under previous guidance. See Note 6, Revenue, for additional information regarding the Company's revenue recognition policy and disclosures required by ASC 606.

The following table presents the cumulative effect of adopting ASC 606 on the Company's Consolidated Balance Sheet as of November 1, 2018 (in thousands):

	As Reported Under ASC 605 October 31, 2018	Impact of ASC 606 Adoption	As Adjusted Under ASC 606 November 1, 2018
Assets			
Contract assets	$14,183	$40,089	$54,272
Inventories, net	401,553	(29,412)	372,141
Prepaid expenses and other current assets	21,187	(489)	20,698
Liabilities			
Accrued expenses and other current liabilities	$171,514	($8,588)	$162,926
Deferred income taxes	46,644	4,258	50,902
Redeemable noncontrolling interests	$132,046	$819	$132,865
Shareholders' equity			
Retained earnings	$1,091,183	$13,373	$1,104,556
Noncontrolling interests	104,757	326	105,083

The following table presents the impact of adopting ASC 606 on the Company's Consolidated Balance Sheet as of October 31, 2019 (in thousands):

	As of October 31, 2019		
	As Reported Under ASC 606	Effect of ASC 606	As Adjusted Under ASC 605
Assets			
Contract assets	$43,132	($39,638)	$3,494
Inventories, net	420,319	28,079	448,398
Prepaid expenses and other current assets	18,953	116	19,069
Liabilities			
Accrued expenses and other current liabilities	$178,957	$6,144	$185,101
Deferred income taxes	51,496	(3,978)	47,518
Redeemable noncontrolling interests	$188,264	$—	$188,264
Shareholders' equity			
Retained earnings	$1,397,327	($13,261)	$1,384,066
Noncontrolling interests	28,118	(348)	27,770

The impact of adopting ASC 606 on the Company's Consolidated Statement of Operations was not material for fiscal 2019.

In February 2016, the FASB issued ASU 2016-02, “Leases,” which requires recognition of lease assets and lease liabilities on the balance sheet of lessees. ASU 2016-02 is effective for fiscal years and interim reporting periods within those years beginning after December 15, 2018, or in fiscal 2020 for HEICO. The Company will adopt ASU 2016-02, as amended, as of November 1, 2019 using a modified retrospective transition approach with the election to apply the guidance as of the adoption date instead of at the beginning of the earliest comparative period presented. The adoption of this guidance will result in an increase in the Company's assets and liabilities due to the recognition of right-of-use ("ROU") assets and corresponding lease liabilities for leases that are currently classified as operating leases.

Upon adoption, the Company will elect certain practical expedients provided by this guidance including the package of transitional practical expedients, which allows the Company to not reassess whether any expired or existing contracts are or contain leases, not reassess the lease classification for any expired or existing leases, and not reassess initial direct costs for any existing leases; the short-term lease practical expedient, which allows the Company to not record an ROU asset and lease liability for any lease with a term of twelve months or less, and the single component practical expedient, which will allow the Company to include both lease and non-lease components associated with a lease as a single lease component, if certain criteria are met, when determining the value of the ROU asset and lease liability.

The adoption of this guidance is expected to result in the Company recording ROU assets and corresponding lease liabilities of approximately $60 million to $75 million in the Company's consolidated balance sheet. The Company does not expect the adoption of this guidance will have a material effect on its consolidated results of operations or cash flows.

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment," which is intended to simplify the current test for goodwill impairment by eliminating the second step in which the implied value of a reporting unit is calculated when the carrying value of the reporting unit exceeds its fair value. Under ASU 2017-04, goodwill impairment should be recognized for the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. ASU 2017-04 must be applied prospectively and is effective for any annual or interim goodwill impairment test in fiscal years beginning after December 15, 2019, or in fiscal 2021 for HEICO. Early adoption is permitted. The Company is currently evaluating the effect the adoption of this guidance will have on its consolidated results of operations, financial position and cash flows.

2. ACQUISITIONS

AAT Acquisition

On September 15, 2017, the Company, through HEICO Electronic, acquired all of the outstanding stock of AeroAntenna Technology, Inc. ("AAT"). The purchase price of this acquisition was paid in cash using proceeds from the Company's revolving credit facility. AAT designs and produces high performance active antenna systems for commercial aircraft, precision guided munitions, other defense applications and commercial uses. The Company believes that this acquisition is consistent with HEICO's practice of acquiring high quality niche designers and manufacturers who also focus on customer needs and will further enable the Company to broaden its product offerings, technologies and customer base.

The following table summarizes the total consideration for the acquisition of AAT (in thousands):

Cash paid	$317,500
Less: cash acquired	(868)
Cash paid, net	316,632
Contingent consideration	13,797
Additional purchase consideration	544
Total consideration	$330,973

As noted in the table above, the total consideration includes an accrual of $13.8 million as of the acquisition date representing the estimated fair value of contingent consideration the Company may be obligated to pay should AAT meet certain earnings objectives during the first six years following the acquisition. See Note 8, Fair Value Measurements, for additional information regarding the Company's contingent consideration obligation.

The following table summarizes the allocation of the total consideration for the acquisition of AAT to the estimated fair values of the tangible and identifiable intangible assets acquired and liabilities assumed (in thousands):

Assets acquired:	
Goodwill	$157,901
Customer relationships	100,000
Intellectual property	39,000
Trade name	20,000
Inventories	8,306
Accounts receivable	6,115
Property, plant and equipment	1,893
Other assets	208
Total assets acquired, excluding cash	333,423
Liabilities assumed:	
Accounts payable	1,299
Accrued expenses	1,151
Total liabilities assumed	2,450
Net assets acquired, excluding cash	$330,973

The primary items that generated the goodwill recognized were the premiums paid by the Company for the future earnings potential of AAT and the value of its assembled workforce that do not qualify for separate recognition. The amortization period of the customer relationships, intellectual property and trade name acquired is 15 years, 15 years and indefinite, respectively. The operating results of AAT were included in the Company’s results of operations from the effective acquisition date. The Company's consolidated net sales and net income attributable to HEICO for the fiscal year ended October 31, 2017 includes $10.2 million and $2.5 million, respectively from the acquisition of AAT.

The following table presents unaudited pro forma financial information for fiscal 2017 as if the acquisition of AAT had occurred as of November 1, 2015 (in thousands, except per share data):

	Year ended October 31, 2017
Net sales	$1,582,653
Net income from consolidated operations	$220,419
Net income attributable to HEICO	$198,744
Net income per share attributable to HEICO shareholders:	
Basic	$1.51
Diluted	$1.47

The pro forma financial information is presented for comparative purposes only and is not necessarily indicative of the results of operations that actually would have been achieved if the acquisition had taken place as of November 1, 2015. The unaudited pro forma financial information includes adjustments to historical amounts such as additional amortization expense related to intangible assets acquired, increased interest expense associated with borrowings to finance the acquisition and inventory purchase accounting adjustments charged to cost of sales as the inventory is sold.

Other Acquisitions

In September 2019, the Company, through a subsidiary of HEICO Electronic, acquired all of the outstanding stock of TTT-Cubed, Inc. ("TTT"). TTT is a designer and manufacturer of Radio Frequency (RF) Sources, Detectors, and Controllers for a certain wide range of aerospace and defense applications. The purchase price of this acquisition was paid in cash using cash provided by operating activities.

In July 2019, the Company, jointly through HEICO Electronic and one of its subsidiaries, acquired substantially all of the assets and business of a France-based company and transferred the assets to a newly created subsidiary, Bernier Connect SAS ("Bernier"). The acquisition is inclusive of Bernier's 70% equity interest in Moulages Plastiques Industriels de L'essonne SARL, a plastics manufacturer. Bernier is a designer and manufacturer of interconnect products used in demanding defense, aerospace and industrial applications, primarily for communications-related purposes. The purchase price of this acquisition was paid in cash using cash provided by operating activities.

In June 2019, the Company, through HEICO Electronic, acquired 75% of the membership interests of Research Electronics International, LLC ("REI"). REI is a designer and manufacturer of Technical Surveillance Countermeasures (TSCM) equipment to detect devices used for espionage and information theft. The remaining 25% interest continues to be owned by certain members of REI's management team (see Note 12, Redeemable Noncontrolling Interests, for additional information).

In February 2019, the Company, through a subsidiary of HEICO Flight Support Corp., acquired 80.1% of the membership interests of Decavo LLC ("Decavo"). Decavo designs and produces complex composite parts and assemblies incorporated into camera and related sensor assemblies and unmanned aerial vehicle ("UAV") airframes used in demanding defense and civilian applications. The remaining 19.9% interest continues to be owned by certain members of Decavo's management team (see Note 12, Redeemable Noncontrolling Interests, for additional information). The total consideration includes an accrual of $2.1 million as of the acquisition date representing the estimated fair value of contingent consideration the Company may be obligated to pay should Decavo meet a certain earnings objective during the second and third years following the acquisition. See Note 8, Fair Value Measurements, for additional information regarding the Company's contingent consideration obligation. The purchase price of this acquisition was paid in cash principally using cash provided by operating activities.

In February 2019, the Company, through HEICO Electronic, acquired 85% of the stock of Solid Sealing Technology, Inc. ("SST"). SST designs and manufactures high-reliability ceramic-to-metal feedthroughs and connectors for demanding environments within the defense, industrial, life science, medical, research, semiconductor, and other markets. The remaining 15% interest continues to be owned by certain members of SST's management team (see Note 12, Redeemable Noncontrolling Interests, for additional information).

In November 2018, the Company, through a subsidiary of HEICO Electronic, acquired an additional equity interest in Freebird Semiconductor Corporation ("Freebird"), which increased the Company's aggregate equity interest in Freebird to greater than 50%. Accordingly, the Company began consolidating the operating results of Freebird as of the acquisition date. Prior to this transaction, the Company accounted for its investment in Freebird under the equity method. Freebird is a fabless design and manufacturing company that offers advanced high-reliability wide-band gap power switching technology. The purchase price of this acquisition was paid in cash using cash provided by operating activities.

In November 2018, the Company, through HEICO Electronic, acquired 92.7% of the stock of Apex Microtechnology, Inc. ("Apex"). Apex designs and manufactures precision power analog monolithic, hybrid and open frame components for a certain wide range of aerospace, defense, industrial, measurement, medical and test applications. The remaining 7.3% interest continues to be owned by certain members of Apex's management team (see Note 12, Redeemable Noncontrolling Interests, for additional information).

In November 2018, the Company, through HEICO Electronic, acquired all of the stock of Specialty Silicone Products, Inc. ("SSP"). SSP designs and manufactures silicone material for a variety of demanding applications used in aerospace, defense, research, oil and gas, testing, pharmaceuticals and other markets.

In September 2018, the Company, through a subsidiary of HEICO Electronic, obtained control over 53.1% of the equity interests of SST Components, Inc. (“SST Components”). SST Components manufactures discrete semiconductor components, tests electronic components, and custom assembles a wide variety of prototype and off the shelf components into desired package styles for military, space and commercial uses. The purchase price of this acquisition was paid using cash provided by operating activities.

In August 2018, the Company, through a subsidiary of HEICO Flight Support Corp., acquired all of the business and assets of Optical Display Engineering ("ODE"). ODE is a Federal Aviation Administration ("FAA")-authorized Part 145 Repair Station focusing on the repair of LCD screens and display modules for aviation displays used in civilian and military aircraft. ODE also holds FAA-Parts Manufacturer Approval authority to supply products that it repairs. The purchase price of this acquisition was paid in cash, principally using cash provided by operating activities.

In April 2018, the Company, through a subsidiary of HEICO Electronic, acquired all of the assets and business of the Emergency Locator Transmitter Beacon product line ("ELT Product Line") of Instrumar Limited. The ELT Product Line designs and manufactures Emergency Locator Transmitter Beacons for the commercial aviation and defense markets that upon activation, transmit a distress signal to alert search and rescue operations of the aircraft's location. The purchase price of this acquisition was paid using cash provided by operating activities.

In February 2018, the Company, through a subsidiary of HEICO Electronic, acquired 85% of the assets and business of Sensor Technology Engineering, Inc. ("Sensor Technology"). Sensor Technology designs and manufactures sophisticated nuclear radiation detectors for law enforcement, homeland security and military applications. The remaining 15% continues to be owned by certain members of Sensor Technology's management team (see Note 12, Redeemable Noncontrolling Interests, for additional information).

In November 2017, the Company, through a subsidiary of HEICO Electronic, acquired all of the stock of Interface Displays & Controls, Inc. ("IDC"). IDC designs and manufactures electronic products for aviation, marine, military fighting vehicles, and embedded computing markets. The purchase price of this acquisition was paid using cash provided by operating activities.

In June 2017, the Company, through a subsidiary of HEICO Flight Support Corp., acquired all of the ownership interests of Carbon by Design ("CBD"). CBD is a manufacturer of composite components for UAVs, rockets, spacecraft and other specialized applications. The purchase price of CBD was paid using cash provided by operating activities.

In April 2017, the Company, through a subsidiary of HEICO Flight Support Corp., acquired 80.1% of the equity interests of LLP Enterprises, LLC, which owns all of the outstanding equity interests of the operating units of Air Cost Control ("A2C"). A2C is a leading aviation electrical interconnect product distributor of items such as connectors, wire, cable, protection and fastening systems, in addition to distributing a wide range of electromechanical parts. The remaining 19.9% interest continues to be owned by the founders of A2C (see Note 12, Redeemable Noncontrolling Interests, for additional information).

Unless otherwise noted, the purchase price of each of the above referenced other acquisitions was paid in cash, principally using proceeds from the Company's revolving credit facility, and is not material or significant to the Company's consolidated financial statements.

The following table summarizes the aggregate total consideration for the Company's other acquisitions (in thousands):

	Year ended October 31,		
	2019	**2018**	**2017**
Cash paid	$243,550	$61,931	$109,346
Less: cash acquired	(2,466)	(4,000)	(7,713)
Cash paid, net	241,084	57,931	101,633
Contingent consideration	2,107	—	—
Fair value of existing equity interest	1,417	—	—
Additional purchase consideration	—	(243)	1,300
Total consideration	$244,608	$57,688	$102,933

The following table summarizes the allocation of the aggregate total consideration for the Company's other acquisitions to the estimated fair values of the tangible and identifiable intangible assets acquired and liabilities and noncontrolling interests assumed (in thousands):

	Year ended October 31,		
	2019	2018	2017
Assets acquired:			
Goodwill	$156,177	$38,359	$49,932
Customer relationships	47,553	11,620	29,500
Intellectual property	31,459	6,970	1,950
Trade names	19,216	760	16,750
Property, plant and equipment	18,013	1,777	4,522
Inventories	17,676	6,307	28,410
Accounts receivable	8,673	1,480	15,165
Other assets (including contract assets)	907	126	982
Total assets acquired, excluding cash	299,674	67,399	147,211
Liabilities assumed:			
Deferred income taxes	7,455	—	5,432
Accrued expenses	2,937	1,522	6,054
Accounts payable	2,879	671	7,696
Other liabilities	548	—	1,434
Total liabilities assumed	13,819	2,193	20,616
Noncontrolling interests in consolidated subsidiaries	41,247	7,518	23,662
Net assets acquired, excluding cash	$244,608	$57,688	$102,933

The following table summarizes the weighted average amortization period of the definite-lived intangible assets acquired in connection with the Company's other fiscal 2019, 2018 and 2017 acquisitions (in years):

	Year ended October 31,		
	2019	2018	2017
Customer relationships	11	7	12
Intellectual property	15	10	13

The allocation of the total consideration for the Company's fiscal 2019 acquisitions to the tangible and identifiable intangible assets acquired and liabilities and noncontrolling interests assumed is preliminary until the Company obtains final information regarding their fair values. However, the Company does not expect any adjustments to such allocations to be material to the Company's consolidated financial statements. The primary items that generated the goodwill recognized were the premiums paid by the Company for the future earnings potential of the businesses acquired and the value of their assembled workforces that do not qualify for separate recognition, which, in the case of Bernier, REI, Decavo, SST, Freebird, Apex, SST Components, Sensor Technology and A2C benefit both the Company and the noncontrolling interest holders. The fair value of the noncontrolling interests in Bernier, REI, Decavo, SST, Freebird, Apex, SST Components, Sensor Technology and A2C was determined based on the consideration paid by the Company for its controlling ownership interest adjusted for a lack of control that a market participant would consider when estimating the fair value of the noncontrolling interest.

The operating results of the Company's fiscal 2019 acquisitions were included in the Company’s results of operations from each of the effective acquisition dates. The amount of net sales and earnings of the fiscal 2019 acquisitions included in the Consolidated Statement of Operations for the fiscal year ended October 31, 2019 is not material. Had the fiscal 2019 acquisitions occurred as of November 1, 2017, net sales on a pro forma basis for fiscal 2019 would not have been materially different than the reported amounts and net sales on a pro forma basis for fiscal 2018 would have been $1,879.7 million. Net income from consolidated operations, net income attributable to HEICO, and basic and diluted net income per share attributable to HEICO shareholders on a pro forma basis for fiscal 2019 and 2018 would not have been materially different than the reported amounts. The pro forma financial information is presented for comparative purposes only and is not necessarily indicative of the results of operations that actually would have been achieved if the acquisitions had taken place as of November 1, 2017.

The operating results of the Company's fiscal 2018 acquisitions were included in the Company's results of operations from each of the effective acquisition dates. The amount of net sales and earnings of the fiscal 2018 acquisitions included in the Consolidated Statement of Operations for the fiscal year ended October 31, 2018 is not material. Had the fiscal 2018 acquisitions occurred as of November 1, 2016, net sales, net income from consolidated operations, net income attributable to HEICO, and basic and diluted net income per share attributable to HEICO shareholders on a pro forma basis for fiscal 2018 and 2017 would not have been materially different than the reported amounts.

The operating results of the Company's other fiscal 2017 acquisitions were included in the Company's results of operations from each of the effective acquisition dates. The Company's consolidated net sales for the fiscal year ended October 31, 2017 includes $49.0 million from the other fiscal 2017 acquisitions. The amount of earnings of the other fiscal 2017 acquisitions included in the Company's results of operations for the fiscal year ended October 31, 2017 is not material. Had the other fiscal 2017 acquisitions occurred as of November 1, 2015, net sales, net income from consolidated operations, net income attributable to HEICO, and basic and diluted net income per share attributable to HEICO shareholders on a pro forma basis for fiscal 2017 would not have been materially different than the reported amounts.

3. SELECTED FINANCIAL STATEMENT INFORMATION

Accounts Receivable

	As of October 31,	
(in thousands)	2019	2018
Accounts receivable	$277,992	$240,544
Less: Allowance for doubtful accounts	(3,666)	(3,258)
Accounts receivable, net	$274,326	$237,286

Inventories

	As of October 31,	
(in thousands)	2019	2018
Finished products	$199,880	$192,758
Work in process	32,548	49,315
Materials, parts, assemblies and supplies	187,891	158,039
Contracts in process	—	1,649
Less: Billings to date	—	(208)
Inventories, net of valuation reserves	$420,319	$401,553

Prior to the adoption of ASC 606, contracts in process represented accumulated capitalized costs associated with fixed price contracts. Additionally, related progress billings and customer advances ("billings to date") were classified as a reduction to contracts in process, if any, and any excess was included in accrued expenses and other liabilities. See Note 1, Summary of Significant Accounting Policies - New Accounting Pronouncements, and Note 6, Revenue, for additional information pertaining to the adoption of ASC 606.

Property, Plant and Equipment

	As of October 31,	
(in thousands)	2019	2018
Land	$6,820	$5,864
Buildings and improvements	116,997	101,424
Machinery, equipment and tooling	253,127	230,108
Construction in progress	8,382	5,044
	385,326	342,440
Less: Accumulated depreciation and amortization	(211,981)	(187,701)
Property, plant and equipment, net	$173,345	$154,739

The amounts set forth above include tooling costs having a net book value of $8.8 million and $8.2 million as of October 31, 2019 and 2018, respectively. Amortization expense on capitalized tooling was $3.1 million, $2.8 million and $2.7 million in fiscal 2019, 2018 and 2017, respectively.

The amounts set forth above also include $11.7 million and $11.9 million of assets under capital leases as of October 31, 2019 and October 31, 2018, respectively. Accumulated depreciation associated with assets under capital leases was $2.1 million and $1.5 million as of October 31, 2019 and October 31, 2018, respectively. See Note 5, Long-Term Debt, for additional information pertaining to capital lease obligations.

Depreciation and amortization expense, exclusive of tooling, on property, plant and equipment was $25.8 million, $23.2 million and $21.9 million in fiscal 2019, 2018 and 2017, respectively.

Accrued Expenses and Other Current Liabilities

	As of October 31,	
(in thousands)	**2019**	**2018**
Accrued employee compensation and related payroll taxes	$112,602	$97,048
Contract liabilities	23,809	28,262
Accrued customer rebates and credits	17,978	16,861
Contingent consideration and other accrued purchase consideration	497	6,138
Other	24,071	23,205
Accrued expenses and other current liabilities	$178,957	$171,514

The increase in accrued employee compensation and related payroll taxes principally reflects a higher level of accrued performance-based compensation expense resulting from the improved consolidated operating results and the impact of our fiscal 2019 acquisitions. The total customer rebates and credits deducted within net sales in fiscal 2019, 2018 and 2017 was $9.0 million, $9.9 million and $11.0 million, respectively.

Other Long-Term Assets and Liabilities

The Company provides eligible employees, officers and directors of the Company the opportunity to voluntarily defer base salary, bonus payments, commissions, long-term incentive awards and directors fees, as applicable, on a pre-tax basis through the HEICO Corporation Leadership Compensation Plan ("LCP"), a nonqualified deferred compensation plan that conforms to Section 409A of the Internal Revenue Code. The Company matches 50% of the first 6% of base salary deferred by each participant. Director fees that would otherwise be payable in Company common stock may be deferred into the LCP, and, when distributable, are distributed in actual shares of Company common stock. The LCP does not provide for diversification of a director's assets allocated to Company common stock. The deferred compensation obligation associated with Company common stock is recorded as a component of shareholders' equity at cost and subsequent changes in fair value are not reflected in operations or shareholders' equity of the Company. Further, while the Company has no obligation to do so, the LCP also provides the Company the opportunity to make discretionary contributions. The Company's matching contributions and any discretionary contributions are subject to vesting and forfeiture provisions set forth in the LCP. Company contributions to the LCP charged to income in fiscal 2019, 2018 and 2017 totaled $6.1 million, $5.9 million and $4.6 million, respectively. The aggregate liabilities of the LCP were $151.1 million and $125.8 million as of October 31, 2019 and 2018, respectively, and are classified within other long-term liabilities in the Company’s Consolidated Balance Sheets. The assets of the LCP, totaling $151.9 million and $126.8 million as of October 31, 2019 and 2018, respectively, are classified within other assets in the Company's Consolidated Balance Sheets and principally represent cash surrender values of life insurance policies that are held within an irrevocable trust that may be used to satisfy the obligations under the LCP. Additional information regarding the assets of the LCP may be found in Note 8, Fair Value Measurements.

Research and Development Expenses

The amount of new product research and development ("R&D") expenses included in cost of sales is as follows (in thousands):

	Year ended October 31,		
	2019	**2018**	**2017**
R&D expenses	$66,630	$57,450	$46,473

Accumulated Other Comprehensive Loss

Changes in the components of accumulated other comprehensive loss during fiscal 2019 and 2018 are as follows (in thousands):

	Foreign Currency Translation	**Defined Benefit Pension Plan**	**Accumulated Other Comprehensive Loss**
Balances as of October 31, 2017	($9,533)	($1,023)	($10,556)
Unrealized (loss) gain	(4,837)	124	(4,713)
Amortization of unrealized loss	—	13	13
Balances as of October 31, 2018	(14,370)	(886)	(15,256)
Unrealized loss	(619)	(889)	(1,508)
Amortization of unrealized loss	—	25	25
Balances as of October 31, 2019	($14,989)	($1,750)	($16,739)

4. GOODWILL AND OTHER INTANGIBLE ASSETS

Changes in the carrying amount of goodwill during fiscal 2019 and 2018 by operating segment are as follows (in thousands):

	Segment		Consolidated
	FSG	**ETG**	**Totals**
Balances as of October 31, 2017	$388,606	$692,700	$1,081,306
Goodwill acquired	10,586	27,734	38,320
Adjustments to goodwill	972	(3,003)	(2,031)
Foreign currency translation adjustments	(1,470)	(1,293)	(2,763)
Balances as of October 31, 2018	398,694	716,138	1,114,832
Goodwill acquired	12,891	143,286	156,177
Foreign currency translation adjustments	(1,580)	(765)	(2,345)
Adjustments to goodwill	39	—	39
Balances as of October 31, 2019	$410,044	$858,659	$1,268,703

The goodwill acquired during fiscal 2019 and 2018 pertains to the acquisitions consummated in those respective years as discussed in Note 2, Acquisitions, and represents the residual value after the allocation of the total consideration to the tangible and identifiable intangible assets acquired and liabilities and noncontrolling interests assumed. Foreign currency translation adjustments are included in other comprehensive income (loss) in the Company's Consolidated Statements of Comprehensive Income. The adjustments to goodwill represent immaterial measurement period adjustments to the purchase price allocation of certain fiscal 2018 and 2017 acquisitions. The Company estimates that $92 million of the goodwill acquired in fiscal 2019 and most of the goodwill acquired in fiscal 2018 is deductible for income tax purposes. Based on the annual test for goodwill impairment as of October 31, 2019, the Company determined there is no impairment of its goodwill and the fair value of each of the Company's reporting units significantly exceeded their carrying value.

Identifiable intangible assets consist of the following (in thousands):

	As of October 31, 2019			As of October 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizing Assets:						
Customer relationships	$411,076	($162,722)	$248,354	$373,946	($135,359)	$238,587
Intellectual property	216,359	(70,169)	146,190	185,983	(56,055)	129,928
Licenses	6,559	(4,102)	2,457	6,559	(3,522)	3,037
Patents	986	(666)	320	927	(609)	318
Non-compete agreements	813	(813)	—	814	(814)	—
Trade names	450	(180)	270	466	(157)	309
	636,243	(238,652)	397,591	568,695	(196,516)	372,179
Non-Amortizing Assets:						
Trade names	153,102	—	153,102	134,181	—	134,181
	$789,345	($238,652)	$550,693	$702,876	($196,516)	$506,360

The increase in the gross carrying amount of customer relationships, intellectual property and trade names as of October 31, 2019 compared to October 31, 2018 principally relates to such intangible assets recognized in connection with the fiscal 2019 acquisitions (see Note 2, Acquisitions).

Amortization expense related to intangible assets was $53.7 million, $50.1 million and $39.5 million in fiscal 2019, 2018 and 2017, respectively. Amortization expense for each of the next five fiscal years and thereafter is estimated to be $53.8 million in fiscal 2020, $50.9 million in fiscal 2021, $44.4 million in fiscal 2022, $39.1 million in fiscal 2023, $34.6 million in fiscal 2024 and $174.8 million thereafter.

5. LONG-TERM DEBT

Long-term debt consists of the following (in thousands):

	As of October 31,	
	2019	2018
Borrowings under revolving credit facility	$553,000	$523,000
Capital leases and note payable	8,955	9,470
	561,955	532,470
Less: Current maturities of long-term debt	(906)	(859)
	$561,049	$531,611

The Company's borrowings under its revolving credit facility mature in fiscal 2023. As of October 31, 2019 and 2018, the weighted average interest rate on borrowings under the Company's revolving credit facility was 3.0% and 3.4%, respectively. The revolving credit facility contains both financial and non-financial covenants. As of October 31, 2019, the Company was in compliance with all such covenants.

Revolving Credit Facility

In November 2017, the Company entered into a $1.3 billion Revolving Credit Facility Agreement ("Credit Facility") with a bank syndicate, which matures in November 2022. Under certain circumstances, the maturity of the Credit Facility may be extended for two one-year periods. The Credit Facility also includes a feature that will allow the Company to increase the capacity by $350 million to become a $1.65 billion facility through increased commitments from existing lenders or the addition of new lenders. Borrowings under the Credit Facility may be used to finance acquisitions and for working capital and other general corporate purposes, including capital expenditures.

Borrowings under the Credit Facility accrue interest at the Company’s election of the Base Rate or the Eurocurrency Rate, plus in each case, the Applicable Rate (based on the Company’s Total Leverage Ratio). The Base Rate for any day is a fluctuating rate per annum equal to the highest of (i) the Prime Rate; (ii) the Federal Funds Rate plus .50%; and (iii) the Eurocurrency Rate for an Interest Period of one month plus 100 basis points. The Eurocurrency Rate is the rate per annum obtained by dividing LIBOR for the applicable Interest Period by a percentage equal to 1.00 minus the daily average Eurocurrency Reserve Rate for such Interest Period, as such capitalized terms are defined in the Credit Facility. The Applicable Rate for Eurocurrency Rate Loans ranges from 1.00% to 2.00%. The Applicable Rate for Base Rate Loans ranges from 0% to 1.00%. A fee is charged on the amount of the unused commitment ranging from .125% to .30% (depending on the Company’s Total Leverage Ratio). The Credit Facility also includes $100 million sublimits for borrowings made in foreign currencies and for swingline borrowings, and a $50 million sublimit for letters of credit. Outstanding principal, accrued and unpaid interest and other amounts payable under the Credit Facility may be accelerated upon an event of default, as such events are described in the Credit Facility. The Credit Facility is unsecured and contains covenants that require, among other things, the maintenance of a Total Leverage Ratio and an Interest Coverage Ratio, as such capitalized terms are defined in the Credit Facility.

Capital Lease Obligations

The Company's capital lease obligations are principally for manufacturing facilities. The estimated future minimum lease payments of all capital leases for the next five fiscal years and thereafter are as follows (in thousands):

Year ending October 31,	
2020	$1,213
2021	1,212
2022	1,203
2023	906
2024	832
Thereafter	5,596
Total minimum lease payments	10,962
Less: amount representing interest	(2,327)
Present value of minimum lease payments	$8,635

6. REVENUE

The Company recognizes revenue when it transfers control of a promised good or service to a customer in an amount that reflects the consideration it expects to receive in exchange for the good or service. The Company's performance obligations are satisfied and control is transferred either at a point-in-time or over-time. The majority of the Company's revenue is recognized at a point-in-time when control is transferred, which is generally evidenced by the shipment or delivery of the product to the customer, a transfer of title, a transfer of the significant risks and rewards of ownership, and customer acceptance. For certain contracts under which the Company produces products with no alternative use and for which it has an enforceable right to recover costs incurred plus a reasonable profit margin for work completed to date and for certain other contracts under which the Company creates or enhances a customer-owned asset while performing repair and overhaul services, control is transferred to the customer over-time. The Company recognizes revenue using an over-time recognition model for these types of contracts.

Details of the products and services provided by the Company can be found within Disaggregation of Revenue which follows within this Note 6.

Contracts with Customers and Performance Obligations

The Company accounts for a contract with a customer when it has approval and commitment from both parties, the rights of the parties are identified, the payment terms are identified, the contract has commercial substance, and it is probable that the Company will collect the consideration to which it is entitled to receive. Customer payment terms related to the sale of products and the rendering of services vary by Company subsidiary and product line. The time between receipt of payment and recognition of revenue for satisfaction of the related performance obligation is not significant.

A performance obligation is a promise within a contract to transfer a distinct good or service to the customer in exchange for payment and is the unit of account for recognizing revenue. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when or as the performance obligation is satisfied. The majority of the Company's contracts have a single performance obligation to transfer goods or services. For contracts with more than one performance obligation, the Company allocates the transaction price to each performance obligation based on its estimated standalone selling price. When standalone selling prices are not available, the transaction price is allocated using an expected cost plus margin approach as pricing for such contracts is typically negotiated on the basis of cost.

The Company accounts for contract modifications prospectively when the remaining goods or services are distinct and on a cumulative catch-up basis when the remaining goods or services are not distinct.

The Company provides assurance type warranties on many of its products and services. Since customers cannot purchase such warranties independently of the products or services under contract and they are not priced separately, warranties are not separate performance obligations.

Contract Estimates

The Company utilizes the cost-to-cost method as a measure of progress for performance obligations that are satisfied over-time as it believes this input method best represents the transfer of control to the customer. Under this method, revenue for the current period is recorded at an amount equal to the ratio of costs incurred to date divided by total estimated contract costs multiplied by (i) the transaction price, less (ii) cumulative revenue recognized in prior periods. Contract costs include all direct material and labor costs and those indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation.

Certain of the Company's contracts give rise to variable consideration when they contain items such as customer rebates, credits, volume purchase discounts, penalties and other provisions that may impact the total consideration the Company will receive. The Company includes variable consideration in the transaction price generally by applying the most likely amount method of the consideration that it expects to be entitled to receive based on an assessment of all available information (i.e., historical experience, current and forecasted performance) and only to the extent it is probable that a significant reversal of revenue recognized will not occur when the uncertainty is resolved. The Company estimates variable consideration by applying the most likely amount method when there are a limited number of outcomes related to the resolution of the variable consideration.

Changes in estimates that result in adjustments to net sales and cost of sales are recognized as necessary in the period they become known on a cumulative catch-up basis. Changes in estimates did not have a material effect on net income from consolidated operations in fiscal 2019, 2018 and 2017.

Practical Expedients and Optional Exemptions

The Company has elected the following practical expedients and optional exemptions allowed under ASC 606:

- The majority of the Company's performance obligations related to customer contracts are satisfied within one year. As such, the Company has elected to disclose remaining performance obligations only for contracts with an original duration of greater than one year.

- The Company has elected to record all shipping and handling activities as fulfillment activities. When revenue is recognized in advance of incurring shipping and handling costs, the costs related to the shipping and handling activities are accrued.

- For certain contracts with similar characteristics and for which revenue is recognized using an over-time model, the Company uses a portfolio approach to estimate the amount of revenue to recognize. For each portfolio of contracts, the respective work in process and/or finished goods inventory balances are identified and the portfolio-specific margin is applied to estimate the pro rata portion of the transaction price to recognize in relation to the costs incurred. This approach is utilized only when the resulting revenue recognition is not expected to be materially different than if the accounting was applied to the individual contracts.

- The Company does not adjust the amount of revenue to be recognized under a customer contract for the effects of the time value of money when the timing difference between receipt of payment and recognition of revenue for satisfaction of the related performance obligation is less than one year.

- Sales commissions and any other costs of obtaining a customer contract with a duration of one year or less are expensed as incurred.

Contract Balances

Contract assets (unbilled receivables) represent revenue recognized on contracts using an over-time recognition model in excess of amounts invoiced to the customer. Contract liabilities (deferred revenue) represent customer advances and billings in excess of revenue recognized and are included within accrued expenses and other current liabilities in the Company's Consolidated Balance Sheet.

Changes in the Company's contract assets and liabilities during fiscal 2019 are as follows (in thousands):

	October 31, 2019	November 1, 2018	Change
Contract assets	$43,132	$54,272	($11,140)
Contract liabilities	23,809	19,674	4,135
Net contract assets	$19,323	$34,598	($15,275)

The decrease in the Company's contract assets during fiscal 2019 mainly occurred within the ETG and principally reflects billings on certain customer contracts made during the year in excess of the amounts recorded as additional unbilled receivables for contracts using an over-time recognition model.

The increase in the Company's contract liabilities during fiscal 2019 principally reflects the receipt of payment on a certain contract in advance of control transferring to the customer as well as new customer deposits on certain customer contracts, partially offset by reductions to contract liabilities from customer deposits recognized as revenue.

The amount of revenue that the Company recognized during fiscal 2019 that was included in contract liabilities as of the beginning of fiscal 2019 was $16.5 million.

Remaining Performance Obligations

As of October 31, 2019, the Company had $453.6 million of remaining performance obligations associated with contracts with an original duration of greater than one year pertaining to the majority of the products offered by the ETG and the FSG's aftermarket replacement parts and specialty products product line. The Company will recognize net sales as these obligations are satisfied. The Company expects to recognize $275.7 million of this amount during fiscal 2020 and $177.9 million thereafter, of which the majority is expected to occur in fiscal 2021.

Disaggregation of Revenue

The following table summarizes the Company's net sales by product line for each operating segment (in thousands):

	Year Ended October 31,		
	2019	2018	2017
Flight Support Group:			
Aftermarket replacement parts [1]	$678,001	$582,562	$489,644
Repair and overhaul parts and services [2]	299,323	286,454	270,482
Specialty products [3]	262,859	228,921	207,414
Total net sales	1,240,183	1,097,937	967,540
Electronic Technologies Group:			
Electronic component parts for defense, space and aerospace equipment [4]	633,685	547,088	420,991
Electronic component parts for equipment in various other industries [5]	200,837	154,739	153,270
Total net sales	834,522	701,827	574,261
Intersegment sales	(19,058)	(22,043)	(16,988)
Total consolidated net sales	$2,055,647	$1,777,721	$1,524,813

(1) Includes various jet engine and aircraft component replacement parts.

(2) Includes primarily the sale of parts consumed in various repair and overhaul services on selected jet engine and aircraft components, avionics, instruments, composites and flight surfaces of commercial and military aircraft.

(3) Includes primarily the sale of specialty components such as thermal insulation blankets, renewable/reusable insulation systems, advanced niche components, complex composite assemblies, and expanded foil mesh.

(4) Includes various component parts such as electro-optical infrared simulation and test equipment, electro-optical laser products, electro-optical, microwave and other power equipment, high-speed interface products, power conversion products, underwater locator beacons, emergency locator transmission beacons, traveling wave tube amplifiers, microwave power modules, three-dimensional microelectronic and stacked memory products, crashworthy and ballistically self-sealing auxiliary fuel systems, radio frequency (RF) and microwave amplifiers, transmitters and receivers, high performance communications and electronic intercept receivers and tuners, high performance active antenna systems, and technical surveillance countermeasures equipment.

(5) Includes various component parts such as electromagnetic and radio interference shielding, high voltage interconnection devices, high voltage advanced power electronics, harsh environment connectivity products, custom molded cable assemblies, and silicone material for a variety of demanding applications.

The following table summarizes the Company's net sales by industry for each operating segment (in thousands):

	Year ended October 31,		
	2019	2018	2017
Flight Support Group:			
Aerospace	$1,004,088	$890,059	$781,344
Defense and Space	190,076	163,330	146,708
Other [(1)]	46,019	44,548	39,488
Total net sales	1,240,183	1,097,937	967,540
Electronic Technologies Group:			
Defense and Space	531,029	452,714	368,234
Other [(2)]	217,889	177,878	157,195
Aerospace	85,604	71,235	48,832
Total net sales	834,522	701,827	574,261
Other, primarily corporate and intersegment	(19,058)	(22,043)	(16,988)
Total consolidated net sales	$2,055,647	$1,777,721	$1,524,813

(1) Principally industrial products.

(2) Principally other electronics and medical products.

7. INCOME TAXES

The components of income before income taxes and noncontrolling interests are as follows (in thousands):

	Year ended October 31,		
	2019	2018	2017
Domestic	$386,584	$309,123	$264,420
Foreign	51,257	47,163	33,540
Income before taxes and noncontrolling interests	$437,841	$356,286	$297,960

The components of the provision for income taxes on income before income taxes and noncontrolling interests are as follows (in thousands):

	Year ended October 31,		
	2019	2018	2017
Current:			
Federal	$56,670	$61,548	$85,047
State	12,795	9,420	6,820
Foreign	15,027	12,608	9,529
	84,492	83,576	101,396
Deferred:			
Federal	(3,140)	(13,115)	(9,661)
State	(1,263)	1,578	(499)
Foreign	(1,989)	(1,439)	(936)
	(6,392)	(12,976)	(11,096)
Total income tax expense	$78,100	$70,600	$90,300

A reconciliation of the federal statutory income tax rate to the Company's effective tax rate is as follows:

	Year ended October 31,		
	2019	2018	2017
Federal statutory income tax rate (blended rate in fiscal 2018)	21.0%	23.3%	35.0%
State taxes, net of federal income tax benefit	3.0%	2.9%	1.9%
Tax benefit related to stock option exercises	(3.8%)	(.5%)	(1.0%)
Discrete net tax benefit related to Tax Act	—%	(3.4%)	—%
Research and development tax credits	(1.7%)	(2.0%)	(1.8%)
Foreign derived intangible income deduction	(1.4%)	—%	—%
Tax-exempt (gains) losses on corporate-owned life insurance policies	(.6%)	.1%	(1.8%)
Nondeductible compensation	.8%	.2%	—%
Domestic production activities tax deduction	—%	(.8%)	(1.1%)
Other, net	.5%	—%	(.9%)
Effective tax rate	17.8%	19.8%	30.3%

In December 2017, the United States ("U.S.") government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act contains significant changes to previous tax law, some of which became immediately effective in fiscal 2018 including, among other things, a reduction in the U.S. federal statutory tax rate from 35% to 21% effective January 1, 2018 resulting in a blended rate of 23.3% for fiscal 2018 and the implementation of a territorial tax system resulting in a one-time transition tax on the unremitted earnings of the Company's foreign subsidiaries. Certain other provisions of the Tax Act became effective for HEICO in fiscal 2019 including a new tax on Global Intangible Low-Taxed Income ("GILTI"), a new deduction for Foreign-Derived Intangible Income ("FDII"), the repeal of the domestic production activity deduction and increased limitations on the deductibility of certain executive compensation. As a result of the Tax Act, the Company remeasured its U.S. federal net deferred tax liabilities and recorded a discrete tax benefit of $16.5 million in fiscal 2018. Further, the Company recorded a provisional discrete tax expense of $4.4 million in fiscal 2018 related to a one-time transition tax on the unremitted earnings of the Company's foreign subsidiaries, which it intends to pay over the eight-year period allowed for in the Tax Act.

The Company’s effective tax rate in fiscal 2019 decreased to 17.8% from 19.8% in fiscal 2018. The decrease in the Company's effective tax rate in fiscal 2019 is mainly attributable to a $14.3 million larger tax benefit in fiscal 2019 from stock option exercises compared to fiscal 2018 and the reduction in the federal tax rate from a blended rate of 23.3% in fiscal 2018 to 21% in fiscal 2019, partially offset by the net impact of the previously mentioned discrete tax amounts recorded in fiscal 2018. The provisions of the Tax Act that became effective for HEICO in fiscal 2019 did not have a material net effect on the Company's effective tax rate.

The Company’s effective tax rate in fiscal 2018 decreased to 19.8% from 30.3% in fiscal 2017. The decrease principally reflects the previously mentioned discrete tax benefit from the remeasurement of the Company’s U.S. federal net deferred tax liabilities and the net benefit of a lower federal statutory income tax rate, which were partially offset by the aforementioned one-time transition tax expense. Further, the decrease in fiscal 2018 was slightly moderated by an unfavorable impact from lower tax-exempt unrealized gains in the cash surrender values of life insurance policies related to the HEICO Corporation Leadership Compensation Plan ("HEICO LCP").

The Company files income tax returns in the U.S. federal jurisdiction and in multiple state jurisdictions. The Company is also subject to income taxes in certain jurisdictions outside the U.S., none of which are individually material to the accompanying consolidated financial statements. Generally, the Company is no longer subject to U.S. federal, state or foreign examinations by tax authorities for years prior to fiscal 2015.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The Company believes that it is more likely than not that it will generate sufficient future taxable income to utilize all of its deferred tax assets and has therefore not recorded a valuation allowance on any such asset.

Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	As of October 31,	
	2019	2018
Deferred tax assets:		
Deferred compensation liability	$35,437	$31,152
Inventories	23,858	22,204
Share-based compensation	10,206	9,811
Bonus accrual	6,463	4,474
Customer rebates accrual	2,324	1,526
Vacation accrual	1,452	1,456
Other	8,806	7,152
Total deferred tax assets	88,546	77,775
Deferred tax liabilities:		
Goodwill and other intangible assets	(122,075)	(112,533)
Property, plant and equipment	(14,137)	(11,615)
Adoption of ASC 606	(3,277)	—
Other	(553)	(271)
Total deferred tax liabilities	(140,042)	(124,419)
Net deferred tax liability	($51,496)	($46,644)

As of October 31, 2019 and 2018, the Company's liability for gross unrecognized tax benefits related to uncertain tax positions was $2.7 million and $2.1 million, respectively, of which $2.1 million and $1.7 million, respectively, would decrease the Company's income tax expense and effective income tax rate if the tax benefits were recognized. A reconciliation of the activity related to the liability for gross unrecognized tax benefits during fiscal 2019 and 2018 is as follows (in thousands):

	Year ended October 31,	
	2019	2018
Balances as of beginning of year	$2,100	$2,040
Increases related to current year tax positions	653	591
Increases related to prior year tax positions	45	20
Settlements	—	(394)
Lapses of statutes of limitations	(128)	(157)
Balances as of end of year	$2,670	$2,100

8. FAIR VALUE MEASUREMENTS

The Company's assets and liabilities that were measured at fair value on a recurring basis are set forth by level within the fair value hierarchy in the following tables (in thousands):

	As of October 31, 2019			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Deferred compensation plan:				
Corporate-owned life insurance	$—	$151,871	$—	$151,871
Money market funds	20	—	—	20
Total assets	$20	$151,871	$—	$151,891
Liabilities:				
Contingent consideration	$—	$—	$18,326	$18,326

	As of October 31, 2018			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Deferred compensation plans:				
Corporate-owned life insurance	$—	$123,255	$—	$123,255
Money market funds	3,560	—	—	3,560
Equity securities	3,179	—	—	3,179
Mutual funds	1,437	—	—	1,437
Other	1,306	—	—	1,306
Total assets	$9,482	$123,255	$—	$132,737
Liabilities:				
Contingent consideration	$—	$—	$20,875	$20,875

The Company maintains the HEICO Corporation Leadership Compensation Plan (the "LCP"), which is a non-qualified deferred compensation plan. The assets of the LCP principally represent cash surrender values of life insurance policies, which derive their fair values from investments in mutual funds that are managed by an insurance company, and are classified within Level 2 and valued using a market approach. Certain other assets of the LCP represent investments in money market funds that are classified within Level 1. The assets of the LCP are held within an irrevocable trust and classified within other assets in the Company's Consolidated Balance Sheets.

The Company previously maintained another non-qualified deferred compensation plan. The assets and liabilities of this plan were each $5.9 million as of October 31, 2018 and classified within other assets and other long-term liabilities, respectively, in the Company's Consolidated Balance Sheet. During fiscal 2019, the plan's assets were liquidated and distribution payments were made to the remaining plan participants in accordance with their elections.

As part of the agreement to acquire a subsidiary by the FSG in fiscal 2019, the Company may be obligated to pay contingent consideration of $6.4 million in fiscal 2022 should the acquired entity meet a certain earnings objective during the second and third years following the acquisition. As of October 31, 2019, the estimated fair value of the contingent consideration was $1.1 million.

As part of the agreement to acquire a subsidiary by the ETG in fiscal 2017, the Company may be obligated to pay contingent consideration of $20.0 million in fiscal 2023 should the acquired entity meet a certain earnings objective during the first six years following the acquisition. As of October 31, 2019, the estimated fair value of the contingent consideration was $16.7 million. The increase in the fair value of the contingent consideration as of October 31, 2019 as compared to the $13.9 million accrued as of October 31, 2018 is principally attributable to a reduction in the discount rate used to present value the potential future obligation and higher than originally estimated earnings of the acquired entity during the earnout period.

As part of the agreement to acquire certain assets of a company by the ETG in fiscal 2016, the Company may be obligated to pay contingent consideration of up to $1.1 million in aggregate during the first two years following the third anniversary of the acquisition should the acquired entity meet certain earnings objectives during this same time period. During fiscal 2019, the Company paid $.3 million of contingent consideration based on the actual financial performance of the acquired entity during the third year following the acquisition. As of October 31, 2019, the estimated fair value of the remaining contingent consideration was $.5 million.

As part of the agreement to acquire a subsidiary by the FSG in fiscal 2015, the Company paid contingent consideration of €6.1 million, or $6.8 million, during the third quarter of fiscal 2019 based on the actual operating results of the acquired entity during the fourth year following the acquisition. The increase in the amount paid as compared to the €5.1 million, or $5.8 million, accrued as of October 31, 2018 was principally due to the higher actual than anticipated earnings of the acquired entity.

The estimated fair value of the contingent consideration arrangements described above are classified within Level 3 and were determined using probability-based scenario analyses. Under this method, a set of discrete potential future subsidiary earnings was determined using internal estimates based on various revenue growth rate assumptions for each scenario. A probability of likelihood was assigned to each discrete potential future earnings estimate and the resultant contingent consideration was calculated. The resulting probability-weighted contingent consideration amounts were discounted using a weighted average discount rate reflecting the credit risk of HEICO. Changes in either the revenue growth rates, related earnings or the discount rate could result in a material change to the amount of contingent consideration accrued and such changes will be recorded in the Company's consolidated statements of operations.

The Level 3 inputs used to derive the estimated fair value of the Company's contingent consideration liability as of October 31, 2019 are as follows:

	Fiscal 2019 Acquisition	Fiscal 2017 Acquisition	Fiscal 2016 Acquisition
Compound annual revenue growth rate range	(7%) - 9%	(3%) - 10%	(11%) - 3%
Weighted average discount rate	5.7%	4.6%	3.0%

Changes in the Company's contingent consideration liability measured at fair value on a recurring basis using unobservable inputs (Level 3) during fiscal 2019 and 2018 are as follows (in thousands):

	Liabilities
Balance as of October 31, 2017	$27,573
Payment of contingent consideration	(5,425)
Decrease in accrued contingent consideration, net	(1,365)
Foreign currency transaction adjustments	92
Balance as of October 31, 2018	20,875
Increase in accrued contingent consideration, net	2,630
Contingent consideration related to acquisition	2,107
Payment of contingent consideration	(7,178)
Foreign currency transaction adjustments	(108)
Balance as of October 31, 2019	$18,326
Included in the accompanying Consolidated Balance Sheet under the following captions:	
Accrued expenses and other current liabilities	$497
Other long-term liabilities	17,829
	$18,326

The Company recorded the (decrease) increase in accrued contingent consideration and foreign currency transaction adjustments set forth in the table above within SG&A expenses in the Company's Consolidated Statements of Operations.

The Company did not have any transfers between Level 1 and Level 2 fair value measurements during fiscal 2019 and 2018.

The carrying amounts of the Company's cash and cash equivalents, accounts receivable, trade accounts payable and accrued expenses and other current liabilities approximate fair value as of October 31, 2019 due to the relatively short maturity of the respective instruments. The carrying amount of long-term debt approximates fair value due to its variable interest rates.

9. SHAREHOLDERS' EQUITY

Common Stock and Class A Common Stock

The Company has two classes of common stock that are virtually identical in all economic respects except voting rights. Each share of Common Stock is entitled to one vote per share. Each share of Class A Common Stock is entitled to a 1/10 vote per share. Holders of the Company's common stock are entitled to receive dividends and other distributions payable in cash, property, stock or otherwise, when and if declared by the Board of Directors. In the event of liquidation, after payment of debts and other liabilities of the Company, the remaining assets of the Company will be distributable ratably among the holders of both classes of common stock.

Share Repurchases

In 1990, the Company's Board of Directors authorized a share repurchase program, which allows the Company to repurchase shares of Company common stock in the open market or in privately negotiated transactions at the Company's discretion, subject to certain restrictions included in the Company's revolving credit agreement. As of October 31, 2019, the maximum number of shares that may yet be purchased under this program was 4,886,353 of either or both of the Company's Class A Common Stock and the Company's Common Stock. The repurchase program does not have a fixed termination date. During fiscal 2019, 2018 and 2017, the Company did not repurchase any shares of Company common stock under this program.

During fiscal 2019, the Company repurchased an aggregate 476,586 shares and 111,730 shares of Common Stock and Class A Common Stock, respectively, at a total cost of $53.1 million and $10.9 million, respectively. During fiscal 2018, the Company repurchased an aggregate 332,140 shares and 18,145 shares of Common Stock and Class A Common Stock, respectively, at a total cost of $23.9 million and $1.1 million, respectively. The shares repurchased represent shares tendered as payments to satisfy employee withholding taxes due upon exercises of stock option awards. The shares repurchased in fiscal 2019 and 2018 did not impact the number of shares authorized for future purchase under the Company's share repurchase program and are reflected as redemptions of common stock related to stock option exercises in the Company's Consolidated Statements of Shareholders' Equity and Consolidated Statements of Cash Flows. Such share repurchases in fiscal 2017 were not material.

Noncontrolling Interests

Consistent with the Company's past practice of increasing its ownership in certain non-wholly owned subsidiaries, on June 28, 2019, HEICO Aerospace paid dividends to HEICO and Lufthansa Technik AG ("LHT") in proportion to their ownership interest in HEICO Aerospace of 80% and 20%, respectively (the "Transaction"). LHT received a cash dividend of $91.5 million that was funded principally using proceeds from the Company's revolving credit facility. HEICO effectively received as its dividend the 20% noncontrolling interest held by LHT in eight of the Company's existing subsidiaries within its HEICO Aerospace subsidiary that are principally part of the FSG's repair and overhaul parts and services product line. HEICO did not record any gain or loss in connection with the Transaction. Immediately following the Transaction, HEICO transferred the eight businesses to HEICO Flight Support Corp., a wholly owned subsidiary of HEICO. LHT remains a 20% owner in HEICO Aerospace, a designer and manufacturer of jet engine and aircraft component replacement parts.

10. SHARE-BASED COMPENSATION

The Company currently has one stock option plan, the HEICO Corporation 2018 Incentive Compensation Plan ("2018 Plan"), which enables the Company to grant various forms of share-based compensation awards including stock options, restricted stock, restricted stock awards and stock appreciation rights. The 2018 Plan became effective in fiscal 2018 and replaced the Company's 2012 Incentive Compensation Plan (“2012 Plan”). Options outstanding under the Company's 2012 Plan, 2002 Stock Option Plan and Non-Qualified Stock Option Plan may be exercised pursuant to their terms. The total number of shares approved by the shareholders of the Company for the 2018 Plan is 5.0 million plus any options outstanding under the 2012 Plan as of the 2018 Plan's effective date that are subsequently forfeited or expire. A total of approximately 8.8 million shares of the Company's common stock are reserved for issuance to employees, directors, officers and consultants as of October 31, 2019, including 4.7 million shares currently under option and 4.1 million shares available for future grants.

Stock options granted pursuant to the 2018 Plan may be designated as Common Stock and/or Class A Common Stock in such proportions as shall be determined by the Board of Directors or the Stock Option Plan Committee at its sole discretion. The exercise price per share of a stock option granted under the 2018 Plan may not be less than the fair market value of the designated class of Company common stock as of the date of grant and stock option grants vest ratably over a period specified as of the date of grant (generally five years) and expire ten years after the date of grant. Options issued under the 2018 Plan may be designated as incentive stock options or non-qualified stock options, but only employees are eligible to receive incentive stock options and no incentive stock options were outstanding as of October 31, 2019. The 2018 Plan will terminate no later than the tenth anniversary of its effective date.

Information concerning share-based activity for each of the last three fiscal years ended October 31 is as follows (in thousands, except per share data):

		Shares Under Option	
	Shares Available For Grant	Shares	Weighted Average Exercise Price
Outstanding as of October 31, 2016	2,016	6,520	$14.23
Granted	(1,186)	1,186	$41.37
Exercised	—	(409)	$15.27
Outstanding as of October 31, 2017	830	7,297	$18.58
Shares approved by the Company's shareholders for the 2018 Incentive Compensation Plan	5,000	—	$—
Cancelled unissued shares under the 2012 Incentive Compensation Plan	(830)	—	$—
Granted	(412)	412	$65.64
Exercised	—	(1,285)	$10.54
Cancelled	24	(24)	$28.85
Outstanding as of October 31, 2018	4,612	6,400	$23.19
Granted	(538)	538	$73.30
Exercised	—	(2,235)	$12.98
Cancelled	11	(11)	$49.79
Outstanding as of October 31, 2019	4,085	4,692	$33.73

Information concerning stock options outstanding (all of which are vested or expected to vest) and stock options exercisable by class of common stock as of October 31, 2019 is as follows (in thousands, except per share and contractual life data):

	Options Outstanding			
	Number Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Common Stock	1,682	$35.91	5.6	$147,012
Class A Common Stock	3,010	$32.52	5.8	188,927
	4,692	$33.73	5.7	$335,939

	Options Exercisable			
	Number Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Common Stock	1,030	$22.81	4.2	$103,538
Class A Common Stock	1,755	$20.85	4.2	130,618
	2,785	$21.57	4.2	$234,156

Information concerning stock options exercised is as follows (in thousands):

	Year ended October 31,		
	2019	2018	2017
Cash proceeds from stock option exercises	$8,547	$4,031	$5,659
Tax benefit realized from stock option exercises	16,490	2,162	3,087
Intrinsic value of stock option exercises	204,901	75,152	10,376

Net income from consolidated operations for the fiscal years ended October 31, 2019, 2018 and 2017 includes compensation expense of $10.3 million, $9.3 million and $7.4 million, respectively, and an income tax benefit of $2.0 million, $2.2 million and $2.8 million, respectively, related to the Company's stock options. Substantially all of the stock option compensation expense was recorded as a component of SG&A expenses in the Company's Consolidated Statements of Operations. As of October 31, 2019, there was $28.4 million of pre-tax unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted average period of approximately 3.2 years. The total fair value of stock options that vested in fiscal 2019, 2018 and 2017 was $8.9 million, $8.5 million and $5.3 million, respectively. If there were a change in control of the Company, all of the unvested options outstanding as of October 31, 2019 would become immediately exercisable.

The fair value of each stock option grant in fiscal 2019, 2018 and 2017 was estimated on the date of grant using the Black-Scholes option-pricing model based on the following weighted average assumptions:

	Year ended October 31,					
	2019		2018		2017	
	Common Stock	Class A Common Stock	Common Stock	Class A Common Stock	Common Stock	Class A Common Stock
Expected stock price volatility	28.52%	24.81%	31.00%	27.69%	37.89%	28.18%
Risk-free interest rate	2.52%	2.69%	2.83%	2.81%	2.44%	2.06%
Dividend yield	.22%	.22%	.24%	.29%	.26%	.31%
Forfeiture rate	.00%	.00%	.00%	.00%	.00%	.00%
Expected option life (years)	8	6	9	8	9	7
Weighted average fair value	$33.88	$19.64	$30.00	$20.93	$21.36	$12.47

11. EMPLOYEE RETIREMENT PLANS

The HEICO Savings and Investment Plan (the "401(k) Plan") is a qualified defined contribution retirement plan under which eligible employees of the Company and its participating subsidiaries may make Elective Deferral Contributions up to the limitations set forth in Section 402(g) of the Internal Revenue Code. The Company generally makes a 50% Employer Matching Contribution, as determined by the Board of Directors, based on a participant's Elective Deferral Contribution up to 6% of the participant's Compensation for the Elective Deferral Contribution period. The 401(k) Plan also provides that the Company may make additional Employer Contributions. Employer Contributions may be contributed in the form of the Company's common stock or cash, as determined by the Company. Employer Contributions awarded in the form of Company common stock are valued based on the fair value of the underlying shares as of the effective date of contribution. Employer Contributions may be diversified by a participant into any of the participant-directed investment options of the 401(k) Plan; however, Employee Contributions may not be invested in Company common stock. Unless specified otherwise, all capitalized terms herein are defined in the 401(k) Plan document.

Participants receive 100% vesting in Employee Contributions and on cash dividends received on Company common stock. Vesting in Employer Contributions is based on a participant's number of Years of Service. Employer Contributions to the 401(k) Plan charged to income in fiscal 2019, 2018 and 2017 totaled $9.5 million, $8.0 million and $7.8 million, respectively, and were made through the issuance of new shares of Company common stock and the use of forfeited shares within the 401(k) Plan.

Information concerning share-based activity pertaining to the 401(k) Plan for each of the last three fiscal years ended October 31 is as follows (in thousands):

	Common Stock	Class A Common Stock
Shares available for issuance as of October 31, 2016	491	491
Issuance of common stock to the 401(k) Plan	(93)	(93)
Shares available for issuance as of October 31, 2017	398	398
Issuance of common stock to the 401(k) Plan	(65)	(65)
Shares available for issuance as of October 31, 2018	333	333
Issuance of common stock to the 401(k) Plan	(53)	(53)
Shares available for issuance as of October 31, 2019	280	280

12. REDEEMABLE NONCONTROLLING INTERESTS

The holders of equity interests in certain of the Company's subsidiaries have rights ("Put Rights") that may be exercised on varying dates causing the Company to purchase their equity interests through fiscal 2029. The Put Rights, all of which relate either to common shares or membership interests in limited liability companies, provide that the cash consideration to be paid for their equity interests (the "Redemption Amount") be at fair value or at a formula that management intended to reasonably approximate fair value based solely on a multiple of future earnings over a measurement period. The Redemption Amounts were determined using probability-adjusted internal estimates of future subsidiary earnings while considering the earliest exercise date, the measurement period and any applicable fair value adjustments. Management's estimate of the aggregate Redemption Amount of all Put Rights that the Company could be required to pay is as follows (in thousands):

	As of October 31,	
	2019	**2018**
Redeemable at fair value	$136,611	$83,524
Redeemable based on a multiple of future earnings	51,653	48,522
Redeemable noncontrolling interests	$188,264	$132,046

A summary of the Put Rights associated with the redeemable noncontrolling interests in certain of the Company's subsidiaries as of October 31, 2019 is as follows:

Subsidiary Acquisition Year	Operating Segment	Company Ownership Interest	Earliest Put Right Year	Purchase Period (Years)
2005	ETG	95.9%	2020 [(1)]	4 [(2)]
2006	FSG	80.1%	2020 [(1)]	4
2008	FSG	82.3%	2020 [(1)]	5
2009	ETG	82.5%	2020 [(1)]	1
2012	ETG	78.0%	2020 [(1)]	2
2012	FSG	84.0%	2020 [(1)]	4
2012	FSG	80.1%	2020 [(1)]	4
2015	FSG	80.0%	2020 [(1)]	4
2015	FSG	80.1%	2020	4
2015	ETG	80.1%	2020	2
2015	FSG	80.1%	2022	4
2017	FSG	80.1%	2022	2 [(3)]
2018	ETG	85.0%	2021	1
2019	ETG	92.7%	2023	4
2019	ETG	85.0%	2024	4
2019	FSG	80.1%	2026	4
2019	ETG	75.0%	2024	4

[(1)] Currently puttable

[(2)] A portion is to be purchased in a lump sum

[(3)] The second purchase is to be made two years after the first Put Right Year

The estimated aggregate Redemption Amount of the Put Rights that are currently puttable or becoming puttable during fiscal 2020 is approximately $106.7 million, of which approximately $47.8 million would be payable in fiscal 2020 should all of the eligible associated noncontrolling interest holders elect to exercise their Put Rights during fiscal 2020. Additionally, the Company has call rights to purchase the equity interests of the noncontrolling holders over the same purchase period as the Put Rights.

13. NET INCOME PER SHARE ATTRIBUTABLE TO HEICO SHAREHOLDERS

The computation of basic and diluted net income per share attributable to HEICO shareholders is as follows (in thousands, except per share data):

	Year ended October 31,		
	2019	2018	2017
Numerator:			
Net income attributable to HEICO	$327,896	$259,233	$185,985
Denominator:			
Weighted average common shares outstanding - basic	133,640	132,543	131,703
Effect of dilutive stock options	3,710	4,153	3,885
Weighted average common shares outstanding - diluted	137,350	136,696	135,588
Net income per share attributable to HEICO shareholders:			
Basic	$2.45	$1.96	$1.41
Diluted	$2.39	$1.90	$1.37
Anti-dilutive stock options excluded	330	512	799

14. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

(in thousands, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales:				
2019	$466,146	$515,648	$532,324	$541,529
2018	$404,410	$430,602	$465,825	$476,884
Gross profit:				
2019	$182,237	$209,387	$212,831	$209,385
2018	$154,791	$167,857	$181,609	$186,458
Net income from consolidated operations:				
2019	$88,026	$90,083	$89,059	$92,573
2018	$71,695	$66,011	$73,899	$74,081
Net income attributable to HEICO:				
2019	$79,332	$81,782	$81,098	$85,684
2018	$65,152	$59,618	$67,086	$67,377
Net income per share attributable to HEICO:				
Basic:				
2019	$.60	$.61	$.61	$.64
2018	$.49	$.45	$.51	$.51
Diluted:				
2019	$.58	$.60	$.59	$.62
2018	$.48	$.44	$.49	$.49

During the first quarter of fiscal 2019, the Company recognized a $16.6 million discrete tax benefit from stock option exercises, which, net of noncontrolling interests, increased net income attributable to HEICO by $15.1 million, or $.11 per basic and diluted share. During the first quarter of fiscal 2018, the Company recognized a net benefit from stock option exercises that increased net income attributable to HEICO by $2.1 million, or $.02 per basic and diluted share.

During the first quarter of fiscal 2018, the U.S. government enacted significant changes to existing tax law resulting in the Company recording a provisional discrete tax benefit from remeasuring its U.S. federal net deferred tax liabilities that was partially offset by a provisional discrete tax expense related to a one-time transition tax on the unremitted earnings of the Company's foreign subsidiaries. The net impact of these amounts increased net income attributable to HEICO by $11.9 million, or $.09 per basic and dilute share. See Note 7, Income Taxes, for additional information regarding changes to existing tax law.

Due to changes in the average number of common shares outstanding, net income per share attributable to HEICO for the full fiscal year may not equal the sum of the four individual quarters.

15. OPERATING SEGMENTS

The Company has two operating segments: the Flight Support Group ("FSG"), consisting of HEICO Aerospace and HEICO Flight Support Corp. and their collective subsidiaries; and the Electronic Technologies Group ("ETG"), consisting of HEICO Electronic and its subsidiaries. The Company's operating segment reporting structure is consistent with how management reviews the business, makes investing and resource decisions and assesses operating performance. Additionally, characteristics such as similarity of products, customers, economic characteristics and various other factors are considered when identifying the Company's operating segments.

The FSG designs, manufactures, repairs, overhauls and distributes jet engine and aircraft component replacement parts. The parts and services are approved by the FAA. The FSG also manufactures and sells specialty parts as a subcontractor for aerospace and industrial original equipment manufacturers and the U.S. government. Additionally, the FSG is a leading supplier, distributor, and integrator of military aircraft parts and support services primarily to foreign military organizations allied with the U.S. and a leading manufacturer of advanced niche components and complex composite assemblies for commercial aviation, defense and space applications. Further, the FSG engineers, designs and manufactures thermal insulation blankets and parts as well as removable/reusable insulation systems for aerospace, defense, commercial and industrial applications, manufactures expanded foil mesh for lightning strike protection in fixed and rotary wing aircraft and is a distributor of aviation electrical interconnect products and electromechanical parts.

The ETG collectively designs, manufactures and sells various types of electronic, data and microwave, and electro-optical products including three-dimensional microelectronic and stacked memory products, high-speed interface products, high voltage interconnection devices, high voltage advanced power electronics products, power conversion products, underwater locator beacons, emergency locator transmission beacons, electromagnetic interference shielding, traveling wave tube amplifiers, harsh environment electronic connectors and other interconnect products, communications and electronic intercept receivers and tuners, crashworthy and ballistically self-sealing auxiliary fuel systems for military rotorcraft, radio frequency (RF) and microwave amplifiers, transmitters and receivers, satellite microwave modules and integrated subsystems, high performance active antenna systems for commercial aircraft, precision guided munitions, other defense applications and commercial uses, silicone material for a variety of demanding applications; precision power analog monolithic, hybrid and open frame components, high-reliability ceramic-to-metal feedthroughs and connectors, technical surveillance countermeasures equipment, nuclear radiation detectors and RF sources, detectors, and controllers.

The Company's reportable operating segments offer distinctive products and services that are marketed through different channels. They are managed separately because of their unique technology and service requirements.

Segment Profit or Loss

The accounting policies of the Company's operating segments are the same as those described in Note 1, Summary of Significant Accounting Policies. Management evaluates segment performance based on segment operating income.

Information on the Company's two operating segments, the FSG and the ETG, for each of the last three fiscal years ended October 31 is as follows (in thousands):

	Segment		Other, Primarily Corporate and Intersegment [1]	Consolidated Totals
	FSG	ETG		
Year ended October 31, 2019:				
Net sales	$1,240,183	$834,522	($19,058)	$2,055,647
Depreciation	13,793	10,957	1,008	25,758
Amortization	19,624	37,131	984	57,739
Operating income	242,029	245,743	(30,675)	457,097
Capital expenditures	17,036	11,826	76	28,938
Year ended October 31, 2018:				
Net sales	$1,097,937	$701,827	($22,043)	$1,777,721
Depreciation	13,322	9,225	692	23,239
Amortization	19,530	33,339	1,083	53,952
Operating income	206,623	204,508	(34,886)	376,245
Capital expenditures	13,074	9,531	19,266	41,871
Year ended October 31, 2017:				
Net sales	$967,540	$574,261	($16,988)	$1,524,813
Depreciation	13,042	8,609	227	21,878
Amortization	18,026	24,167	752	42,945
Operating income	179,278	157,451	(30,071)	306,658
Capital expenditures	15,665	10,100	233	25,998

[1] Intersegment activity principally consists of net sales from the ETG to the FSG.

Total assets by operating segment are as follows (in thousands):

	Segment		Other, Primarily Corporate	Consolidated Totals
As of October 31,	FSG	ETG		
2019	$1,149,737	$1,643,032	$176,442	$2,969,211
2018	1,093,858	1,391,997	167,541	2,653,396

Major Customer and Geographic Information

The Company markets its products and services in approximately 110 countries. The following table summarizes the Company's net sales to customers located in the United States and to those in other countries for each of the last three fiscal years ended October 31 (in thousands). Net sales are attributed to countries based on the location of the customer. Net sales to any one customer or originating from any one foreign country did not account for 10% or more of the Company's consolidated net sales during any of the last three fiscal years. The following table also summarizes the Company's long-lived assets held within and outside of the United States as of October 31 for each of the last three fiscal years (in thousands). Long-lived assets consist of net property, plant and equipment.

	2019	2018	2017
Net sales:			
United States of America	$1,308,943	$1,127,998	$1,007,491
Other countries	746,704	649,723	517,322
Total net sales	$2,055,647	$1,777,721	$1,524,813
Long-lived assets:			
United States of America	$143,350	$124,225	$97,367
Other countries	29,995	30,514	32,516
Total long-lived assets	$173,345	$154,739	$129,883

16. COMMITMENTS AND CONTINGENCIES

Lease Commitments

The Company leases certain property and equipment, including manufacturing facilities and office equipment under operating leases. Some of these leases provide the Company with the option after the initial lease term either to purchase the property at the then fair market value or renew the lease at the then fair rental value. Generally, management expects that leases will be renewed or replaced by other leases in the normal course of business.

Future minimum payments under non-cancelable operating leases for the next five fiscal years and thereafter are estimated to be as follows (in thousands):

Year ending October 31,	
2020	$15,508
2021	15,563
2022	13,808
2023	8,515
2024	4,741
Thereafter	18,812
Total minimum lease commitments	$76,947

Total rent expense charged to operations for operating leases in fiscal 2019, 2018 and 2017 amounted to $20.0 million, $17.5 million and $15.6 million, respectively.

Guarantees

As of October 31, 2019, the Company has arranged for standby letters of credit aggregating $4.1 million, which are supported by its revolving credit facility and pertain to payment guarantees related to potential workers' compensation claims and a facility lease as well as performance guarantees related to customer contracts entered into by certain of the Company's subsidiaries.

Product Warranty

Changes in the Company's product warranty liability in fiscal 2019 and 2018 are as follows (in thousands):

	Year ended October 31,	
	2019	**2018**
Balances as of beginning of year	$3,306	$2,921
Accruals for warranties	2,061	2,720
Acquired warranty liabilities	—	320
Warranty claims settled	(2,557)	(2,655)
Balances as of end of year	$2,810	$3,306

Litigation

The Company is involved in various legal actions arising in the normal course of business. Based upon the Company's and its legal counsel's evaluations of any claims or assessments, management is of the opinion that the outcome of these matters will not have a material adverse effect on the Company's results of operations, financial position or cash flows.

17. SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION

The following table presents supplemental disclosures of cash flow information and non-cash investing activities for fiscal 2019, 2018 and 2017 (in thousands):

	Year ended October 31,		
	2019	2018	2017
Cash paid for income taxes	$82,211	$90,488	$95,851
Cash received from income tax refunds	(578)	(1,510)	(2,953)
Cash paid for interest	22,158	19,233	9,631
Contingent consideration	2,107	—	13,797
Additional purchase consideration	—	(407)	220
Property, plant and equipment acquired through capital lease obligations	84	7,166	37

18. SUBSEQUENT EVENT

In December 2019, the Company, through HEICO Electronic, acquired 80.1% of the stock of Quell Corporation ("Quell"). Quell designs and manufactures electromagnetic interference (EMI)/radio-frequency interference (RFI) and transient protection solutions for a wide variety of connectors that principally serve customers within the aerospace and defense markets. The remaining 19.9% continues to be owned by certain members of Quell's management team. The purchase price of this acquisition was paid using cash provided by operating activities and the total consideration for the acquisition is not material or significant to the Company’s consolidated financial statements.

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

None.

Item 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and its Chief Financial Officer, evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this annual report. Based upon that evaluation, the Company's Chief Executive Officer and its Chief Financial Officer concluded that the Company's disclosure controls and procedures are effective as of the end of the period covered by this annual report.

Management's Annual Report on Internal Control Over Financial Reporting

Management of HEICO Corporation is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. 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 inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management, under the supervision of and with the participation of the Company's Chief Executive Officer and the Chief Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control - Integrated Framework (2013)*. Based on its assessment, management concluded that the Company's internal control over financial reporting is effective as of October 31, 2019.

As permitted by the Securities and Exchange Commission, companies are allowed to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition and management elected to exclude TTT-Cubed, Inc., Bernier Connect SAS, Research Electronics International, LLC, Decavo LLC, Solid Sealing Technology, Inc., Freebird Semiconductor Corporation, Apex Microtechnology, Inc. and Specialty Silicone Products, Inc. (collectively, the "Excluded Acquisitions") from its assessment of internal control over financial reporting as of October 31, 2019. See Note 2, Acquisitions, of the Notes to Consolidated Financial Statements for additional information. The aggregate assets and net sales of the Excluded Acquisitions constituted 10.2% and 3.3% of the Company's consolidated total assets and net sales as of and for the year ended October 31, 2019, respectively.

Deloitte & Touche LLP, an independent registered public accounting firm, audited the Company's consolidated financial statements and financial statement schedule included in this Annual Report on Form 10-K for the year ended October 31, 2019. A copy of their report is included in Item 8, *Financial Statements and Supplementary Data*, of this Annual Report on Form 10-K. Deloitte & Touche LLP has issued their attestation report on management's internal control over financial reporting, which is set forth below.

Changes in Internal Control Over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during the fourth quarter ended October 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

As described in *Management's Annual Report on Internal Control Over Financial Reporting,* the Company made several acquisitions during fiscal 2019 and is in the process of integrating each one into its overall internal control over financial reporting process.

Attestation Report of the Company's Independent Registered Public Accounting Firm

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
HEICO Corporation
Hollywood, Florida

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of HEICO Corporation and subsidiaries (the "Company") as of October 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 Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements and financial statement schedule as of and for the year ended October 31, 2019 of the Company and our report dated December 19, 2019 expressed an unqualified opinion on those financial statements and financial statement schedule.

Basis for Opinion

As described in *Management's Annual Report on Internal Control Over Financial Reporting*, management excluded from its assessment the internal control over financial reporting at TTT-Cubed, Inc., Bernier Connect SAS, Research Electronics International, LLC, Decavo LLC, Solid Sealing Technology, Inc., Freebird Semiconductor Corporation, Apex Microtechnology, Inc. and Specialty Silicone Products, Inc., (collectively, the "Excluded Acquisitions") which were acquired during the year ended October 31, 2019, and whose financial statements constitute 10.2% of total assets and 3.3% of net sales of the Company's consolidated financial statement amounts as of and for the year ended October 31, 2019, respectively. Accordingly, our audit did not include the internal control over financial reporting of the Excluded Acquisitions. The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management’s Annual Report on Internal Control Over Financial Reporting*. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ DELOITTE & TOUCHE LLP

Miami, Florida
December 19, 2019

Item 9B. ***OTHER INFORMATION***

None.

PART III

Item 10. ***DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

Information concerning the members of the Board of Directors of the Company, including the Finance/Audit Committee of the Board of Directors, the independence of its members and the "audit committee financial expert" as defined by the Securities and Exchange Commission ("Commission"), as well as information concerning other corporate governance matters and compliance with Section 16(a) of the Securities Exchange Act of 1934 is hereby incorporated by reference to the Company's definitive proxy statement, which will be filed with the Commission within 120 days after the close of fiscal 2019.

Information concerning the Executive Officers of the Company is set forth in Item 1 of Part I hereof under the caption "Information About Our Executive Officers."

The Company has adopted a code of ethics that applies to its principal executive officer, principal financial officer, principal accounting officer or controller and persons performing similar functions. The code of ethics is located on the Company's Internet website at http://www.heico.com. Any amendments to or waivers from a provision of this code of ethics will be posted on the Company's website.

Item 11. *EXECUTIVE COMPENSATION*

Information concerning executive compensation required by this item is hereby incorporated by reference to the Company's definitive proxy statement, which will be filed with the Commission within 120 days after the close of fiscal 2019.

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

Information concerning security ownership of certain beneficial owners and management and related stockholder matters required by this item is hereby incorporated by reference to the Company's definitive proxy statement, which will be filed with the Commission within 120 days after the close of fiscal 2019.

Equity Compensation Plan Information

The following table summarizes information about our equity compensation plans as of October 31, 2019 (in thousands, except per share data):

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c) (2)
Equity compensation plans approved by security holders (1)	4,692	$33.73	4,085
Equity compensation plans not approved by security holders	—	—	—
Total	4,692	$33.73	4,085

(1) Represents aggregated information pertaining to our four equity compensation plans: the HEICO Corporation 2018 Incentive Compensation Plan, the 2012 Incentive Compensation Plan, the 2002 Stock Option Plan and the Non-Qualified Stock Option Plan. See Note 10, Share-Based Compensation, of the Notes to Consolidated Financial Statements for further information regarding these plans.

(2) Shares are available for future grant in column (c) solely under the HEICO Corporation 2018 Incentive Compensation Plan, under a formula that counts one share against the available share reserve for each one share subject to a stock option or stock appreciation right, and counts 2.5 shares against the available share reserve for each one share subject to a restricted stock award, a restricted stock unit award, a free-standing dividend equivalent award, or any other stock-based award or a performance award denominated in shares. Additionally, the 4,085 remaining number of securities available for future issuance may be designated as Common Stock and/or Class A Common Stock in such proportions as shall be determined by the Board of Directors or the Stock Option Plan Committee at its sole discretion.

Item 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE*

Information concerning certain relationships and related transactions and director independence required by this item is hereby incorporated by reference to the Company's definitive proxy statement, which will be filed with the Commission within 120 days after the close of fiscal 2019.

Item 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES*

Information concerning fees and services by the principal accountant required by this item is hereby incorporated by reference to the Company's definitive proxy statement, which will be filed with the Commission within 120 days after the close of fiscal 2019.

PART IV

Item 15. *EXHIBITS AND FINANCIAL STATEMENT SCHEDULES*

(a)(1) Financial Statements

The following consolidated financial statements of the Company and subsidiaries and report of independent registered public accounting firm are included in Part II, Item 8:

(a)(2) Financial Statement Schedules

The following financial statement schedule of the Company and subsidiaries is included herein:

All other schedules have been omitted because the required information is not applicable or the information is included in the consolidated financial statements or notes thereto presented in Part II, Item 8.

(a)(3) Exhibits

Exhibit		Description
2.1	—	Amended and Restated Agreement of Merger and Plan of Reorganization, dated as of March 22, 1993, by and among HEICO Corporation, HEICO Industries, Corp. and New HEICO, Inc. is incorporated by reference to Exhibit 2.1 to the Registrant's Registration Statement on Form S-4 (Registration No. 33-57624) Amendment No. 1 filed on March 19, 1993. *
3.1	—	Articles of Incorporation of the Registrant are incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-4 (Registration No. 33-57624) Amendment No. 1 filed on March 19, 1993. *
3.2	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated April 27, 1993, are incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form 8-B dated April 29, 1993. *
3.3	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated November 3, 1993, are incorporated by reference to Exhibit 3.3 to the Form 10-K for the year ended October 31, 1993. *
3.4	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated March 19, 1998, are incorporated by reference to Exhibit 3.4 to the Company's Registration Statement on Form S-3 (Registration No. 333-48439) filed on March 23, 1998. *
3.5	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated as of November 2, 2003, are incorporated by reference to Exhibit 3.5 to the Form 10-K for the year ended October 31, 2003. *
3.6	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated March 26, 2012, are incorporated by reference to Exhibit 3.1 to the Form 8-K filed on March 29, 2012. *
3.7	—	Articles of Amendment of the Articles of Incorporation of the Registrant, dated March 16, 2018, are incorporated by reference to Exhibit 3.1 to the Form 8-K filed on March 20, 2018. *
3.8	—	Amended and Restated Bylaws of the Registrant, effective as of September 22, 2014, are incorporated by reference to Exhibit 3.1 to the Form 8-K filed on September 25, 2014. *
4.1	—	Description of HEICO Corporation Capital Stock. **
10.1#	—	HEICO Savings and Investment Plan, as amended and restated effective as of January 1, 2012 is incorporated by reference to Exhibit 10.3 to the Form 10-Q for the quarterly period ended January 31, 2013. *
10.2#	—	Non-Qualified Stock Option Agreement for Directors, Officers and Employees is incorporated by reference to Exhibit 10.8 to the Form 10-K for the year ended October 31, 1985. *

Exhibit		Description
10.3#	—	HEICO Corporation Amended and Restated 2002 Stock Option Plan, effective March 28, 2008, is incorporated by reference to Appendix A to the Form DEF-14A filed on February 28, 2008. *
10.4#	—	HEICO Corporation 2012 Incentive Compensation Plan is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on March 29, 2012. *
10.5#	—	HEICO Corporation 2018 Incentive Compensation Plan is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on March 20, 2018. *
10.6#	—	HEICO Corporation Directors' Retirement Plan, as amended, dated as of May 31, 1991, is incorporated by reference to Exhibit 10.19 to the Form 10-K for the year ended October 31, 1992. *
10.7#	—	HEICO Corporation Leadership Compensation Plan, effective October 1, 2006, as Re-Amended and Restated effective January 1, 2017, is incorporated by reference to Exhibit 10.7 to the Form 10-K for the year ended October 31, 2016. *
10.8#	—	Employment Agreement and Non-Competition and Non-Solicitation Agreement, effective June 1, 2012, by and between HEICO Corporation and Carlos Macau is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on June 1, 2012. *
10.9#	—	Shareholders Agreement, dated October 30, 1997, by and between HEICO Aerospace Holdings Corp., HEICO Aerospace Corporation and all of the shareholders of HEICO Aerospace Holdings Corp. and Lufthansa Technik AG is incorporated by reference to Exhibit 10.32 to Form 10-K/A for the year ended October 31, 1997. *
10.10	—	Revolving Credit Agreement, dated as of December 14, 2011, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto, Wells Fargo Bank, National Association, and Bank of America, N.A., as Co-Syndication Agents, PNC Bank, National Association, as Documentation Agent and SunTrust Bank, as Administrative Agent, is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on December 16, 2011. *
10.11	—	First Amendment to Revolving Credit Agreement, effective as of December 11, 2012, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto and SunTrust Bank, as Administrative Agent, is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on December 14, 2012. *
10.12	—	Second Amendment to Revolving Credit Agreement, effective as of December 11, 2012, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto and SunTrust Bank, as Administrative Agent, is incorporated by reference to Exhibit 10.2 to the Form 8-K filed on December 14, 2012. *
10.13	—	Third Amendment to Revolving Credit Agreement, effective as of February 22, 2013, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto and SunTrust Bank, as Administrative Agent, is incorporated by reference to Exhibit 10.1 to the Form 10-Q for the quarterly period ended April 30, 2013. *

Exhibit		Description
10.14	—	Fourth Amendment to Revolving Credit Agreement, effective as of November 22, 2013, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto and SunTrust Bank, as Administrative Agent, is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on November 27, 2013. *
10.15	—	Revolving Credit Agreement, dated as of November 6, 2017, among HEICO Corporation, as Borrower, the Lenders from time to time party hereto, SunTrust Bank, as Administrative Agent, L/C Issuer and Swingline Lender; Wells Fargo Bank, National Association and Bank of America, N.A., as Co-Syndication Agents; and PNC Bank, National Association, Branch Banking and Trust Company, Capital One, National Association, Fifth Third Bank, JPMorgan Chase Bank, N.A., TD Bank N.A. and U.S. Bank National Association, as Co-Documentation Agents, is incorporated by reference to Exhibit 10.1 to the Form 8-K filed on November 8, 2017. *
10.16	—	Stock Purchase Agreement Between and Among HEICO Electronic Technologies Corp., AeroAntenna Technology, Inc., Yosef (Joseph) Klein, Carmela Klein, Carmela Klein, Trustee of the Carmela Klein Exempt Trust under the Yosef Klein 2008 Irrevocable Delaware Trust, dated September 5, 2008 and Yosef Klein, Trustee of the Carmela Klein 2010 Irrevocable Delaware Trust, dated April 1, 2010; dated as of August 17, 2017, is incorporated by reference to Exhibit 2.1 to the Form 10-Q for the quarterly period ended July 31, 2017. *
21	—	Subsidiaries of HEICO Corporation. **
23	—	Consent of Independent Registered Public Accounting Firm. **
31.1	—	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer. **
31.2	—	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer. **
32.1	—	Section 1350 Certification of Chief Executive Officer. ***
32.2	—	Section 1350 Certification of Chief Financial Officer. ***
101.INS	—	Inline 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. **
101.SCH	—	Inline XBRL Taxonomy Extension Schema Document. **
101.CAL	—	Inline XBRL Taxonomy Extension Calculation Linkbase Document. **
101.DEF	—	Inline XBRL Taxonomy Extension Definition Linkbase Document. **
101.LAB	—	Inline XBRL Taxonomy Extension Labels Linkbase Document. **
101.PRE	—	Inline XBRL Taxonomy Extension Presentation Linkbase Document. **
104	—	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101). **

#	Management contract or compensatory plan or arrangement required to be filed as an exhibit.
*	Previously filed.
**	Filed herewith.
***	Furnished herewith.

Item 16. *FORM 10-K SUMMARY*

None

HEICO CORPORATION AND SUBSIDIARIES
SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS

	Year ended October 31,		
	2019	2018	2017
Allowance for doubtful accounts (in thousands):			
Allowance as of beginning of year	$3,258	$3,006	$3,159
Additions charged to costs and expenses	638	492	7
Additions charged (credited) to other accounts [(a)]	10	(13)	298
Deductions [(b)]	(240)	(227)	(458)
Allowance as of end of year	$3,666	$3,258	$3,006

(a) Principally additions from acquisitions and foreign currency translation adjustments.
(b) Principally write-offs of uncollectible accounts receivable.

	Year ended October 31,		
	2019	2018	2017
Inventory valuation reserves (in thousands):			
Reserves as of beginning of year	$95,391	$92,148	$81,449
Additions charged to costs and expenses	10,148	9,227	6,284
Additions charged to other accounts [(a)]	1,885	1,270	6,264
Deductions [(b)]	(3,603)	(7,254)	(1,849)
Reserves as of end of year	$103,821	$95,391	$92,148

(a) Principally additions from acquisitions and foreign currency translation adjustments.
(b) Principally write-offs of slow-moving, obsolete or damaged inventory.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

HEICO CORPORATION

Date: December 19, 2019

By: /s/ CARLOS L. MACAU, JR.
Carlos L. Macau, Jr.
Executive Vice President - Chief Financial Officer and Treasurer
(Principal Financial Officer)

By: /s/ STEVEN M. WALKER
Steven M. Walker
Chief Accounting Officer and Assistant Treasurer
(Principal Accounting Officer)

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.

Name	Position(s)	Date
/s/ LAURANS A. MENDELSON Laurans A. Mendelson	Chairman of the Board; Chief Executive Officer; and Director (Principal Executive Officer)	December 19, 2019
/s/ THOMAS M. CULLIGAN Thomas M. Culligan	Director	December 19, 2019
/s/ ADOLFO HENRIQUES Adolfo Henriques	Director	December 19, 2019
/s/ MARK H. HILDEBRANDT Mark H. Hildebrandt	Director	December 19, 2019
/s/ ERIC A. MENDELSON Eric A. Mendelson	Co-President and Director	December 19, 2019
/s/ VICTOR H. MENDELSON Victor H. Mendelson	Co-President and Director	December 19, 2019
/s/ JULIE NEITZEL Julie Neitzel	Director	December 19, 2019
/s/ ALAN SCHRIESHEIM Alan Schriesheim	Director	December 19, 2019
/s/ FRANK J. SCHWITTER Frank J. Schwitter	Director	December 19, 2019

Exhibit 4.1

DESCRIPTION OF HEICO CORPORATION CAPITAL STOCK

General

HEICO Corporation ("we," "us," "our," or the "Company") is authorized to issue 150,000,000 shares of Common Stock, par value $.01 per share, 150,000,000 shares of Class A Common Stock, par value $.01 per share, and 10,000,000 shares of Preferred Stock, par value $.01 per share. As of October 31, 2019, (i) 54,142,746 shares of Common Stock were outstanding and such shares were held by approximately 310 holders of record and (ii) 80,353,111 shares of Class A Common Stock were outstanding and such shares were held by approximately 308 holders of record. None of the Preferred Stock is outstanding.

The transfer agent and registrar for the Common Stock and Class A Common Stock is Computershare Investor Services, telephone number (866) 524-0690.

The following descriptions of the Common Stock, the Class A Common Stock and the Preferred Stock are based on our Articles and Bylaws and applicable Florida law.

Common Stock

Each holder of Common Stock is entitled to one vote for each share owned of record on all matters presented to the shareholders. In the event of a liquidation, dissolution or winding up of the Company, the holders of Common Stock are entitled to share equally and ratably in the assets of the Company, if any, remaining after the payment of all of our debts and liabilities and the liquidation preference of any outstanding Preferred Stock. The Common Stock has no preemptive rights, no cumulative voting rights and no redemption, sinking fund or conversion provisions. As of October 31, 2019, 8,777,000 shares are reserved for issuance as either Common Stock or Class A Common Stock under our existing stock option plans.

Holders of Common Stock are entitled to receive dividends if, as and when declared by the Board of Directors out of funds legally available therefor, subject to the dividend and liquidation rights of any Preferred Stock that may be issued and outstanding and subject to any dividend restrictions in our revolving credit facility. No dividends or other distributions (including redemptions or repurchases of shares of capital stock) may be made if, after giving effect to any such dividends or distributions, we would not be able to pay our debts as they become due in the usual course of business or our total assets would be less than the sum of its total liabilities plus the amount that would be needed at the time of a liquidation to satisfy the preferential rights of any holders of Preferred Stock.

Class A Common Stock

Each holder of Class A Common Stock is entitled to the identical rights as the holders of Common Stock, except that each share of Common Stock will entitle the holder thereof to one vote in respect of matters submitted for the vote of holders of Common Stock, whereas each share of Class A Common Stock will entitle the holder thereof to one-tenth of a vote on such matters.

Preferred Stock

Our Board of Directors is authorized, without further shareholder action, to designate and issue from time to time one or more series of Preferred Stock. The Board of Directors may fix and determine the designations, preferences and relative rights and qualifications, limitations or restrictions of any series of Preferred Stock so established, including voting powers, dividend rights, liquidation preferences, redemption rights and conversion privileges. Because the Board of Directors has the power to establish the preferences and rights of each series of Preferred Stock, it may afford the holders of any series of Preferred Stock preferences and rights, voting or otherwise senior to the rights of holders of Common Stock and Class A Common Stock. As of October 31, 2019, the Board of Directors has not issued any shares of Preferred Stock.

Anti-takeover Effects of Certain Provisions of Florida Law, Our Articles of Incorporation and Bylaws, and the Preferred Stock Purchase Rights

Articles and Bylaws. Some of the provisions of our articles of incorporation and bylaws may be deemed to have anti-takeover effects and may discourage, delay, defer or prevent a takeover attempt that a shareholder might consider in its best interest. These provisions do the following:

- establish advance notice procedures for the nomination of candidates for election as directors and for shareholder proposals to be considered at annual shareholders' meetings;

- provide that special meetings of the shareholders may be called by the Chairman of the Board of Directors or the President of HEICO or by a majority of the Board of Directors and shall be called by the President or the Secretary at the request of a majority of the Board of Directors then in office or at the request of the holders of not less than one-tenth (1/10th) of all the outstanding shares of the corporation entitled to vote at the meeting;

- authorize the issuance of 10,000,000 shares of Preferred Stock with the designations, rights, preferences and limitations as may be determined from time to time by the Board of Directors;

- authorize the issuance of 150,000,000 shares of Common Stock having one vote per share; and

- authorize the issuance of 150,000,000 shares of Class A Common Stock having 1/10th vote per share.

Accordingly, without shareholder approval, the Board of Directors can, among other things,

- issue preferred stock with dividend, liquidation, conversion, voting or other rights that could adversely affect the voting powers or other rights of holders of our Common Stock and Class A Common Stock; and

- help maintain the voting power of existing Common Stock shareholders and deter or frustrate takeover attempts that existing holders of Common Stock might consider to be in their best interest by issuing additional shares of Class A Common Stock.

Florida Law. Furthermore, some of the provisions of the Florida Business Corporation Act could have the effect of delaying, deferring or preventing a change in control.

Exhibit 21

SUBSIDIARIES OF HEICO CORPORATION

Name	State or Other Jurisdiction of Incorporation
HEICO Aerospace Holdings Corp.	Florida
HEICO Aerospace Corporation	Florida
Jet Avion Corporation	Florida
LPI Industries Corporation	Florida
HEICO Repair Group Aerostructures, LLC	Florida
Parts Advantage, LLC	Delaware
HNW Building Corp.	Florida
HNW2 Building Corp.	Florida
McClain International, Inc.	Georgia
McClain Property Corp.	Florida
Rogers-Dierks, Inc.	Florida
Turbine Kinetics, Inc.	Florida
ATK Acquisition Corp.	Florida
AD HEICO Acquisition Corp.	Florida
AeroDesign, Inc.	Tennessee
Battery Shop, L.L.C.	Tennessee
Aviation Facilities, Inc.	Florida
JA Engineering I Corp.	Florida
JA Engineering II Corp.	Florida
Jetavi Engineering Private Limited	India
DEC Technologies, Inc.	Florida
Meridian Industrial, Inc.	Florida
Dynatech Acquisition Corp.	Florida
HEICO Parts Group, Inc.	Florida
HEICO Flight Support Corp.	Florida
HEICO Repair, LLC	Florida
Aircraft Technology, Inc.	Florida
Northwings Accessories Corp.	Florida
Aviation Engineered Services Corp.	Florida
HB Fuel Systems LLC	Florida
Future Aviation, Inc.	Florida
Inertial Airline Services, Inc.	Ohio
HEICO Aerospace Parts Corp.	Florida
Niacc-Avitech Technologies Inc.	Florida
Prime Air, LLC	Florida
Avisource Limited	United Kingdom
Prime Air Europe Limited	United Kingdom
Sunshine Avionics LLC	Florida
CSI Aerospace, Inc.	Florida
Action Research Corporation	Florida

Name	**State or Other Jurisdiction of Incorporation**
Reinhold Holdings, Inc.	Delaware
Reinhold Industries, Inc.	Delaware
Carbon by Design Corporation	Florida
Carbon by Design LLC	California
Optical Display Engineering, Inc.	Florida
Thermal Structures, Inc.	California
Thermal Energy Products, Inc.	California
Jetseal, Inc.	Delaware
Seal Dynamics LLC	Florida
Seal Dynamics LLC (Singapore Branch)	Singapore
Seal Dynamics Limited	United Kingdom
Seal Q Corp.	Florida
Blue Aerospace LLC	Florida
HEICO International Holdings B.V.	Netherlands
Aeroworks International Holding B.V.	Netherlands
Aeroworks Europe B.V.	Netherlands
Aeroworks (Lao) Co., Ltd.	Laos
DIRI Co., Ltd.	Laos
Aeroworks Lao II Co., Ltd.	Laos
Aeroworks Special Products B.V.	Netherlands
Aeroworks (Asia) Ltd.	Thailand
Aeroworks Manufacturing Services (Asia) Ltd.	Thailand
Aeroworks Composites B.V.	Netherlands
Aeroworks Composites (Asia) Ltd.	Thailand
HFSC III Corp.	Florida
Harter Aerospace, LLC	Florida
Aerospace & Commercial Technologies, LLC	Florida
Astroseal Products Mfg. Corporation	Connecticut
Astro Property, LLC	Connecticut
HFSC IV Corp.	Florida
LLP Enterprises, LLC	Florida
Air Cost Control US, LLC	Florida
Air Cost Control PTE, Ltd.	Singapore
A2C Air Cost Control SAS	France
Air Cost Control Germany GmbH	Germany
60 Sequin LLC	Connecticut
HFSC V, LLC	Florida
Decavo LLC	Oregon
HFSC VI, LLC	Florida

Name	State or Other Jurisdiction of Incorporation
HEICO Electronic Technologies Corp.	Florida
Radiant Power Corp.	Florida
Radiant-Seacom Repairs Corp.	Florida
Radiant Power IDC, LLC	Florida
Interface Displays & Controls, Inc.	California
Leader Tech, Inc.	Florida
FerriShield, Inc.	Pennsylvania
Santa Barbara Infrared, Inc.	California
IRCameras LLC	Florida
Sensor Technology Engineering, LLC	Florida
Analog Modules, Inc.	Florida
Sierra Microwave Technology, LLC	Delaware
Connectronics Corp.	Florida
Lumina Power, Inc.	Florida
De-Icing Investment Holdings Corp.	Florida
HVT Group, Inc.	Delaware
Dielectric Sciences, Inc.	Massachusetts
Essex X-Ray & Medical Equipment LTD	United Kingdom
High Voltage Technology Limited	United Kingdom
Engineering Design Team, Inc.	Oregon
EMD Acquisition Corp.	Florida
EMD Technologies Incorporated	Canada
VPT, Inc.	Virginia
SI-REL, Inc.	Delaware
SST Components, Inc.	Delaware
Freebird Semiconductor Corporation	Delaware
Dukane Seacom, Inc.	Florida
AeroELT, LLC	Florida
dB Control Corp.	Florida
TTT-Cubed, Inc.	California
3D Acquisition Corp.	Florida
3D Plus SAS	France
Bernier Connect SAS	France
Moulages Plastiques Industriels de L'essonne SARL	France
3D Plus U.S.A., Inc.	Delaware
Switchcraft Holdco, Inc.	Delaware
Switchcraft, Inc.	Illinois
Conxall Corporation	Illinois
Switchcraft Far East Company, Ltd.	Republic of South Korea
Ramona Research, Inc.	California
Lucix Corporation	California
Midwest Microwave Solutions, Inc.	Iowa
Robertson Fuel Systems, L.L.C.	Arizona
AeroAntenna Technology, Inc.	California

Name	**State or Other Jurisdiction of Incorporation**
HETC I, LLC	Florida
Research Electronics International, L.L.C.	Tennessee
Specialty Silicone Products, Inc.	New York
3 McCrea Property Company, LLC	Florida
HETC II Corp.	Florida
Apex Holding Corp.	Delaware
Apex Microtechnology, Inc.	Arizona
HETC III, LLC	Florida
Solid Sealing Technology, Inc.	New York
Quell Corporation*	Colorado
HEICO East Corporation	Florida
16-1741 Property, Inc.	Florida
Bay Equipment Corp.	Delaware

* Acquired December 2019

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 33-4945, 333-108471, 333-161956, 333-180454, 333-210043 and 333-223790 on Forms S-8 of our reports dated December 19, 2019, relating to the consolidated financial statements and financial statement schedule of HEICO Corporation and subsidiaries and the effectiveness of HEICO Corporation and subsidiaries' internal control over financial reporting, appearing in this Annual Report on Form 10-K of HEICO Corporation for the year ended October 31, 2019.

/s/ DELOITTE & TOUCHE LLP

Miami, Florida
December 19, 2019

Exhibit 31.1

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Laurans A. Mendelson, certify that:

(1) I have reviewed this annual report on Form 10-K of HEICO Corporation;

(2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

(3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

(4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

(5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 19, 2019

/s/ LAURANS A. MENDELSON
Laurans A. Mendelson
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Carlos L. Macau, Jr., certify that:

(1) I have reviewed this annual report on Form 10-K of HEICO Corporation;

(2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

(3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

(4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

(5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 19, 2019

/s/ CARLOS L. MACAU, JR.
Carlos L. Macau, Jr.
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

SECTION 1350 CERTIFICATION

In connection with the Annual Report of HEICO Corporation (the "Company") on Form 10-K for the period ended October 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Laurans A. Mendelson, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: December 19, 2019

/s/ LAURANS A. MENDELSON
Laurans A. Mendelson
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

SECTION 1350 CERTIFICATION

In connection with the Annual Report of HEICO Corporation (the “Company”) on Form 10-K for the period ended October 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Carlos L. Macau, Jr., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: December 19, 2019

/s/ CARLOS L. MACAU, JR.
Carlos L. Macau, Jr.
Chief Financial Officer
(Principal Financial Officer)