

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 September 30, 2022

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 **000-08408**

WOODWARD, INC.

(Exact name of registrant as specified in its charter)

Delaware

36-1984010

(State or other jurisdiction of incorporation or
organization)

(I.R.S. Employer Identification No.)

1081 Woodward Way, Fort Collins, Colorado

80524

(Address of principal executive offices)

(Zip Code)

(970) 482-5811

(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 exchange on which registered

Common Stock, par value \$0.001455 per share

WWD

NASDAQ Global Select Market

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 and such files). Yes No

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

Large Accelerated Filer 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

Aggregate market value of registrant's common stock held by non-affiliates of the registrant, based upon the closing price of a share of the registrant's common stock on March 31, 2022 as reported on The NASDAQ Global Select Market on that date: \$5,399,170. For purposes of this calculation, shares of common stock held by (i) persons holding more than 5% of the outstanding shares of stock, (ii) officers and directors of the registrant, and (iii) the Woodward Governor Company Profit Sharing Trust, Woodward Governor Company Deferred Shares Trust, or the Woodward Charitable Trust, as of March 31, 2022, are excluded in that such persons may be deemed to be affiliates. This determination is not necessarily conclusive of affiliate status.

As of November 17, 2022, 59,763,750 shares of the registrant's common stock with a par value of \$0.001455 per share were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of our proxy statement for the Annual Meeting of Stockholders to be held virtually on January 25, 2023, are incorporated by reference into Parts II and III of this Form 10-K, to the extent indicated.

TABLE OF CONTENTS

	Page
PART I	
<u>Forward Looking Statements</u>	1
Item 1. <u>Business</u>	2
Item 1A. <u>Risk Factors</u>	9
Item 1B. <u>Unresolved Staff Comments</u>	20
Item 2. <u>Properties</u>	20
Item 3. <u>Legal Proceedings</u>	20
Item 4. <u>Mine Safety Disclosures</u>	20
PART II	
Item 5. <u>Market Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	21
Item 6. <u>Reserved</u>	22
Item 7. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	23
Item 7A. <u>Quantitative and Qualitative Disclosures about Market Risk</u>	39
Item 8. <u>Financial Statements and Supplementary Data</u>	40
Item 9. <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosures</u>	94
Item 9A. <u>Controls and Procedures</u>	94
Item 9B. <u>Other Information</u>	95
Item 9C. <u>Disclosures Regarding Foreign Jurisdictions that Prevent Inspections</u>	95
PART III	
Item 10. <u>Directors, Executive Officers and Corporate Governance</u>	96
Item 11. <u>Executive Compensation</u>	96
Item 12. <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	96
Item 13. <u>Certain Relationship and Related Transactions, and Director Independence</u>	96
Item 14. <u>Principal Accountant Fees and Services</u>	96
PART IV	
Item 15. <u>Exhibits and Financial Statement Schedules</u>	97
Item 16. <u>Form 10-K Summary</u>	99
<u>Signatures</u>	100

Forward Looking Statements

This Annual Report on Form 10-K, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements regarding future events and our future results within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical fact are statements that are deemed forward-looking statements. These statements are based on current expectations, estimates, forecasts, and projections about the industries in which we operate and the beliefs and assumptions of management. Words such as “anticipate,” “believe,” “estimate,” “seek,” “goal,” “expect,” “forecast,” “intend,” “continue,” “outlook,” “plan,” “project,” “target,” “strive,” “can,” “could,” “may,” “should,” “will,” “would,” variations of such words, and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to projections of our future financial performance, our anticipated growth and trends in our businesses, and other characteristics of future events or circumstances are forward-looking statements. Forward-looking statements may include, among others, statements relating to:

- the impacts on our business relating to the global COVID-19 pandemic and measures taken by governments and private industry in response, including the impacts to supply and demand;
- the effect of economic trends, including rising inflation, and global supply chain and labor pressures;
- the effect of geopolitical events, including the Russia-Ukraine conflict on our business and the markets in which we operate;
- future sales, earnings, cash flow, uses of cash, and other measures of financial performance, including our ability to accurately predict such performance;
- trends in our business and the markets in which we operate, including expectations in those markets in future periods;
- our expected expenses in future periods and trends in such expenses over time;
- descriptions of our plans and expectations for future operations;
- plans and expectations relating to the performance of our joint venture with General Electric Company;
- the expected levels of activity in particular industries or markets and the effects of changes in those levels;
- the scope, nature, or impact of acquisition activity and integration of such acquisition into our business;
- the research, development, production, and support of new products and services;
- restructuring and alignment costs and savings;
- our plans, objectives, expectations and intentions with respect to business opportunities that may be available to us;
- our liquidity, including our ability to meet capital spending requirements and operations;
- future repurchases of common stock;
- future levels of indebtedness and capital spending;
- the stability of financial institutions, including those lending to us;
- pension and other postretirement plan assumptions and future contributions; and
- our tax rate and other effects of the changes in U.S. federal tax law.

All these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Factors that could cause actual results and the timing of certain events to differ materially from the forward-looking statements include the factors described in Item 1A, Risk Factors. We undertake no obligation to revise or update any forward-looking statements for any reason, except as required by applicable law.

Unless we have indicated otherwise or the context otherwise requires, references in this Form 10-K to “Woodward,” “the Company,” “we,” “us,” and “our” refer to Woodward, Inc. and its consolidated subsidiaries.

Except where we have otherwise indicated or the context otherwise requires, amounts presented in this Form 10-K are in thousands, except per share amounts.

Item 1. Business

General

We are an independent designer, manufacturer, and service provider of control solutions for the aerospace and industrial markets. Our innovative fluid energy, combustion control, electrical energy, and motion control systems help customers offer cleaner, more reliable, and more efficient equipment. Our customers include leading original equipment manufacturers and end users of their products. We have production and assembly facilities primarily in the United States, Europe and Asia, and promote our products and services through our worldwide locations.

Our strategic focus is providing energy control and optimization solutions for the aerospace and industrial markets. The precise and efficient control of energy, including motion, fluid, combustion and electrical energy, is a growing requirement in the markets we serve. Our customers look to us to optimize the efficiency, emissions and operation of power equipment in both commercial and defense operations. Our core technologies leverage well across our markets and customer applications, enabling us to develop and integrate cost-effective and state-of-the-art fuel, combustion, fluid, actuation and electronic systems. We focus primarily on serving original equipment manufacturers (“OEMs”) and equipment packagers, partnering with them to bring superior component and system solutions to their demanding applications. We also provide aftermarket repair, maintenance, replacement and other service support for our installed products.

Woodward was established in 1870, incorporated in 1902, and is headquartered in Fort Collins, Colorado. The mailing address of our world headquarters is 1081 Woodward Way, Fort Collins, Colorado 80524. Our telephone number at that location is (970) 482-5811, and our website is www.woodward.com. None of the information contained on our website is incorporated into this document by reference.

Markets and Principal Lines of Business

We serve the aerospace and industrial markets through our two reportable segments – **Aerospace** and **Industrial**. Our customers require technological solutions to meet their needs for performance, efficiency, and reliability, and to reduce cost of operation of their products.

Within the aerospace market, we provide systems, components and solutions for both commercial and defense applications. Our aerospace systems and components optimize the performance of fixed wing and rotorcraft platforms in commercial, business and military aircraft, missiles, weapons and space, ground vehicles and other equipment. Our key focus areas within this market are propulsion and combustion control solutions for turbine powered aircraft; and fluid and motion control solutions for critical aerospace and defense applications.

Within the industrial market, our key focus areas are applications and control solutions for machines that produce electricity utilizing conventional or alternative energy sources; and fluid, motion, and combustion control solutions for complex oil and gas, industrial, power generation and transportation applications.

Products, Services and Applications

Aerospace

Our Aerospace segment designs, manufactures, and services systems and products for the management of fuel, air, and combustion and motion control. These products include fuel pumps, metering units, actuators, air valves, specialty valves, fuel nozzles, and thrust reverser actuation systems for turbine engines and nacelles, as well as flight deck controls, actuators, servocontrols, motors and sensors for aircraft. These products are used on commercial and private aircraft and rotorcraft, as well as on military fixed-wing aircraft and rotorcraft, guided weapons, and other defense systems.

We have significant content on a wide variety of commercial aircraft, rotorcraft and business jet platforms, such as the Airbus A320neo, Boeing 737 MAX and 787, Bell 429 and Gulfstream G650. We also have significant content on defense applications such as Blackhawk and Apache helicopters, F-15 and F-35 fighter jets, and guided tactical weapons.

Revenues from the Aerospace segment are generated by sales to OEMs, tier-one suppliers, and prime contractors, and through aftermarket sales of components, such as provisioning spares or replacements. We also provide aftermarket maintenance, repair and overhaul, as well as other services to commercial airlines, repair facilities, military depots, third party repair shops, and other end users.

Industrial

Our Industrial segment designs, produces, and services systems and products for the management of fuel, air, fluids, gases, motion, combustion and electricity. These products include actuators, valves, pumps, fuel injection systems, solenoids, ignition systems, speed controls, electronics and software, and sensors. Our products are used on industrial gas turbines (including heavy frame, aeroderivative and small industrial gas turbines), steam turbines, compressors, and reciprocating engines (including low speed, medium speed and high-speed engines, that operate on various fuels, including natural gas, diesel, heavy fuel oil and dual-fuel). The equipment on which our products are found is used to generate power; to extract and distribute fossil fuels; in the mining of other commodities; and to convert fuel to work in transportation and freight (both marine and locomotives), mobile, and industrial equipment applications.

Revenues from our Industrial segment are generated primarily by sales to OEMs and by providing aftermarket products and other related services to our OEM customers. Our Industrial segment also sells products through an independent network of distributors and, in some cases, directly to end users.

Customers

Sales to our five largest customers represented approximately 43% of our consolidated net sales for the fiscal year ended September 30, 2022 and 45% in fiscal year ended September 30, 2021.

Sales to our largest customer, General Electric Company (“GE”), in each of the fiscal years ended September 30, 2022 and September 30, 2021, accounted for approximately 11% of our consolidated net sales. Accounts receivable from GE represented approximately 10% of accounts receivable at September 30, 2022 and September 30, 2021. Sales to our second largest customer in fiscal year 2022, Raytheon Technologies, accounted for approximately 11% of our consolidated net sales in the fiscal year ended September 30, 2022 and 9% in the fiscal year ended September 30, 2021. Accounts receivable from Raytheon Technologies totaled approximately 6% of accounts receivable at September 30, 2022, and 5% at September 30, 2021. We believe GE, Raytheon Technologies, and our other significant customers are creditworthy and will be able to satisfy their credit obligations to us.

The customers who account for approximately 10% or more of net sales of each of Woodward’s reportable segments are as follows:

	For the Year Ended September 30,	
	2022	2021
Aerospace	Raytheon Technologies, The Boeing Company, GE	The Boeing Company, Raytheon Technologies, GE
Industrial	Rolls-Royce PLC, Wärtsilä, Caterpillar	Rolls-Royce PLC, Weichai Westport, GE

Competitive Environment

Our products and product support services are sold worldwide into a variety of markets. In all markets, we compete on the basis of differentiated technology and design, product performance and conformity with customer specifications. Additional factors are customer service and support, including on-time delivery and customer partnering, product quality, price, reputation and local presence. Both of our segments operate in uniquely competitive environments.

We believe that new competitors face significant barriers to entry into many of our markets, including various government mandated certification requirements to compete in the aerospace and industrial markets in which we participate.

Aerospace

Aerospace has significant product certification requirements to meet safety regulations, which form a basis for competition as well as a barrier to entry. Technological innovation and design, product performance including increased efficiency and thrust, conformity with customer specifications, and product quality and reliability are of utmost importance in the aerospace and defense industry. In addition, on-time delivery, pricing, and joint development capabilities with customers are points of competition within this market.

We compete with numerous companies around the world that specialize in fuel and air management, combustion, electronic control, aircraft motion control, flight deck control, and thrust reverser products. Our competitors in aerospace include divisions of Eaton, Honeywell, Moog, Parker Hannifin, and Raytheon Technologies. In addition, some of our OEM

customers are capable of developing and manufacturing similar products internally. Several competitors are also customers for our products, such as Honeywell, Parker Hannifin, and Raytheon Technologies.

Some of our customers are affiliated with our competitors through ownership or joint venture agreements. For example, Pratt & Whitney, one of our customers, is affiliated with Raytheon Technologies, one of our competitors. Similarly, GE Aviation has a joint venture (“JV”) with Parker Hannifin for the supply of fuel nozzles. We also have partnered with our customers in the past, such as our strategic JV with one of our largest customers, GE, acting through its GE Aerospace business unit.

We believe our products offer high levels of field reliability, which provides end users with an advantage in life-cycle cost. We address competition in aftermarket service through responsiveness to our customers’ needs, providing short turnaround times, greater performance such as longer time between repairs, and maintaining a global presence. We also compete in part by establishing relationships with our customers’ engineering organizations, and by offering innovative technical and commercial solutions to meet their market requirements. Our ability to design, develop and test an integrated system with a customer is a competitive differentiator, offering the customer savings in both resources and time.

Industrial

Industrial operates in the global markets for industrial turbines and reciprocating engines, which are used in power generation systems, transportation, and oil and gas markets. Many of these markets are subject to regulatory product and performance certifications to meet emissions and safety requirements, which form a basis for competition as well as a barrier to entry.

We compete with numerous companies that specialize in various engine, turbine, and power management products, and our OEM customers are often capable of developing and manufacturing similar products internally. Many of our customers are large global OEMs that require suppliers to support them around the world and to meet increasingly higher requirements in terms of safety, quality, delivery, reliability and cost. Competitors include Emerson, EControls, Heinzmann GmbH & Co., Hoerbiger, Meggitt, Robert Bosch AG, and Triconix. OEM customers with internal capabilities for similar products include Caterpillar, Cummins, GE, Rolls-Royce Power Systems, Wärtsilä, and Weichai Westport.

We believe we are a market leader in providing our customers advanced technology and superior product performance at a competitive price. We focus on developing and maintaining close relationships with our OEM customers’ engineering teams. Competitive success is based on the development of innovative components and systems that are aligned with the OEMs’ technology roadmaps to achieve future reliability, emission, efficiency, and fuel flexibility targets.

For additional information about our markets and trends in our markets, please see Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Government Contracts and Regulation

Portions of our business, particularly in our Aerospace segment, are heavily regulated. We contract with numerous U.S. Government agencies and entities, including all of the branches of the U.S. military, the National Aeronautics and Space Administration (“NASA”), and the Departments of Defense, Homeland Security, and Transportation. We also contract with similar government authorities outside the United States, subject in all cases to applicable law.

We must comply with, and are affected by, laws and regulations relating to the formation, administration and performance of U.S. Government contracts. These laws and regulations, among other things:

- require accurate, complete and current disclosure and certification of cost and pricing data in connection with certain contracts;
- impose specific and unique cost accounting practices that may differ from accounting principles generally accepted in the United States (“U.S. GAAP”), and therefore require robust systems to reconcile;
- impose regulations that define allowable and unallowable costs and otherwise govern our right to reimbursement under certain cost-based U.S. Government contracts;
- impose manufacturing specifications and other quality standards that may be more restrictive than for non-government business activities; and
- restrict the use and dissemination of information classified for national security purposes due to the regulations of the U.S. Government and foreign governments pertaining to the export of certain products and technical data.

Sales made directly to U.S. Government agencies and entities, or indirectly through third party manufacturers utilizing Woodward parts and subassemblies, collectively represented 23% of our sales for fiscal year 2022 and 29% of our sales for fiscal year 2021.

Seasonality

We believe our sales, in total or in either reportable segment, are not subject to significant seasonal variation. However, our sales have generally been lower in the first quarter of our fiscal year as compared to the immediately preceding quarter due to fewer working days resulting from the observance of various holidays and scheduled plant shutdowns for annual maintenance.

Sales Order Backlog

For each of our reportable segments, we have elected to quantify backlog in a manner consistent with the definition of remaining performance obligations. Our remaining performance obligations by segment, excluding material rights, as of October 31, 2022 and 2021 is shown in the table below.

	October 31, 2022	October 31, 2022 Percent Expected to be satisfied by September 30, 2023	October 31, 2021
Aerospace	\$ 1,198,571	74%	\$ 1,009,101
Industrial	374,324	94	261,074
	<u>\$ 1,572,895</u>	<u>79%</u>	<u>\$ 1,270,175</u>

Our remaining performance obligations relate to the aggregate amount of the total contract transaction price of firm orders for which the performance obligation has not yet been recognized in revenue.

Manufacturing

We operate manufacturing and assembly plants primarily in the United States, Europe and Asia. Our products consist of mechanical, electronic and electromechanical systems and components.

Aluminum, iron and steel are primary raw materials used to produce our mechanical components. Other commodities, such as gold, copper and nickel, are also used in the manufacture of our products, although in much smaller quantities. We purchase various goods, including component parts and services used in production, logistics and product development processes from third parties. Generally, there are numerous sources for the raw materials and components used in our products, which we believe are sufficiently available to meet current requirements.

We maintain global strategic sourcing models to meet our global facilities' production needs while building long-term supplier relationships and efficiently managing our overall supply costs. We expect our suppliers to maintain adequate levels of quality raw materials and component parts, and to deliver such parts on a timely basis to support production of our various products. We use a variety of agreements with suppliers intended to protect our intellectual property and processes and to monitor and mitigate risks of disruption in our supply base that could cause a business disruption to our production schedules or to our customers. The risks monitored include supplier financial viability, business continuity, quality, delivery and protection of our intellectual property and processes.

Our customers expect us to maintain adequate levels of certain finished goods and certain component parts to support our warranty commitments and sales to our aftermarket customers, and to deliver such parts on a timely basis to support our customers' standard and customary needs. We carry certain finished goods and component parts in inventory to meet these rapid delivery requirements of our customers.

Research and Development

We finance our research and development activities primarily with our own funds. Our research and development costs include basic research, applied research, component and systems development, and concept formulation studies.

We collaborate closely with our customers as they develop their technology plans, which leads to new product concepts. We believe this collaboration allows us to develop technology, new systems, and products that are aligned with our customers' needs and future performance, which increases the likelihood that our systems and components will be selected for inclusion in the platforms developed by our customers. Further, we believe our close collaboration with our customers during preliminary design stages allows us to provide products that deliver the component and system

performance necessary to bring greater value to our customers. This preliminary work may include opportunities to test new products in order to validate concepts and demonstrate performance in challenging environments. We strive to stay ahead of the competition through our modeling, prototyping, and state of the art test capabilities.

Aerospace is focused on developing systems and components that we believe will be instrumental in helping our customers achieve their objectives of lower fuel consumption, lighter weight, more efficient performance, reduced emissions, and improved operating economics. We support our engine and airframe customers as they develop next generation designs across the commercial aviation, general aviation, civil private and military markets. Our development efforts support technology for a wide range of:

- aerospace turbine engine applications, which include commercial, business and military turbofan engines of various thrust classes, turboshaft engines and turboprop engines;
- electromechanical and hydraulic actuation systems for flight deck-to-flight surface control of fixed-wing aircraft and rotorcraft, and turbine engine nacelles, as well as guidance for weapon systems; and
- motion control components for integration into comprehensive actuation systems.

Most technology development programs begin years before an expected entry to service, such as those for the next generation of commercial aircraft. Other development programs result in nearer-term product launches associated with new OEM offerings, product upgrades, or product replacements on existing programs.

We developed the fuel system, air management system, and actuation hardware for CFM International's LEAP engine program. We also developed actuation system, combustion system and oil system components for Pratt & Whitney's Geared Turbo Fan ("GTF" or "PurePower") engine program. We continue to support GE and CFM for improvements to the LEAP fuel system, and Collins Aerospace and Pratt & Whitney for improvements to the PurePower engine programs.

Industrial is focused on developing innovative technologies, including integrated control systems and system components, that enable our customers to cost-effectively meet mandated emissions regulations and fuel efficiency demands, allow for usage of a wider range of fuel sources, increase reliability (particularly in harsh environments), and reduce total cost of ownership. Our development efforts support technology for a wide range of:

- products that improve the quality of combustion processes and provide more precise flow of various fuels and gases in our customers' gas turbines and industrial reciprocating engines;
- electronic devices and software solutions that provide improved control and protection of reciprocating engines, gas turbines, steam turbines, and engine- and turbine-powered equipment; and
- advanced prognostic and predictive intelligence that is integrated into many of our complex products and systems.

Human Capital

Our employees (whom we call "members") are Woodward's most valuable resource for current and future success. We promote an environment that ensures safety, encourages diversity and inclusion, fosters growth and self-development, and provides meaningful work. All members participate in our success through attractive and aligned total rewards programs. Notable programs we offer to our full-time members include:

- employer sponsored health insurance;
- employer 401(k) matching contributions;
- annual Woodward stock contributions for U.S. members;
- a tuition assistance program;
- training and professional development courses through our Woodward University curriculum; and
- other values-based and technical development training

Tenure of all employees averages nearly 11 years, reflective of our positive workplace culture. Our recruiting team uses internal and external resources to recruit highly skilled and talented workers, and we encourage and reward employee referrals for open positions.

In addition to our comprehensive investment in our members' success, we strive to maintain an inclusive environment that values and leverages the uniqueness of each member to the benefit of all our stakeholders. We view the combination of diverse perspectives and backgrounds as a powerful force for innovation. To promote diversity and our core principles, we emphasize dignity, value, and equality of all members, regardless of race, color, religion, age, gender or sexual

orientation, through our actions and the workplace training programs we provide. We continually strive to harness the diversity of our global workforce by cultivating a climate that permits all our members to bring their authentic selves to work every day.

The health and safety of our members is also a top priority. We have implemented appropriate procedures and precautions to ensure the continued safety and well-being of members. We strive to comply with all federal and local workplace laws and regulations where we do business. We are always looking for ways to exceed compliance standards by utilizing continuous improvement discipline to proactively eliminate risks in the workplace.

As of October 31, 2022, we employed approximately 8,300 full-time members of which approximately 2,500 were located outside of the United States, with the majority of such members located in Germany, Poland and China.

Member engagement drives better business results, and Woodward conducts biannual employee engagement surveys to give our members a voice in their work experience. In 2022, more than 68% of our members participated in our employee engagement surveys. These surveys help identify key engagement drivers at Woodward and areas where we have opportunity to improve. This has resulted in action plans at all levels of the organization and drives continuous conversations on the things that matter most to members and their teams.

In the United States, approximately 13% of our total full-time workforce were union members as of October 31, 2022. All union members in the United States work for our Aerospace segment. The collective bargaining agreements with our union members are generally renewed through contract renegotiation near the contract expiration dates. The MPC Employees Representative Union contract, which covered 710 members as of October 31, 2022, expires September 30, 2025. The Local Lodge 727-N International Association of Machinists and Aerospace Workers agreement, which covers 407 members as of October 31, 2022, expires April 23, 2024.

In Germany, approximately 12% of our total full-time workforce were union members as of October 31, 2022, all of whom work for our Industrial segment. Our Woodward L'Orange members are part of the IG Metall union in Germany. IG Metall covered 961 members as of October 31, 2022.

We believe we have good, collaborative relationships with our union members and the representative unions.

Almost all of our other members in the United States were at-will members as of October 31, 2022, and therefore, not subject to any type of employment contract or agreement. Our executive officers each have severance and change-in-control agreements which have been filed with the SEC.

Outside of the United States, we enter into employment contracts and agreements in those countries in which such relationships are mandatory or customary, including coordination through local works' councils. The provisions of these agreements correspond in each case with the required or customary terms in the subject jurisdiction.

Patents, Intellectual Property, and Licensing

We own numerous patents and other intellectual property, and have licenses for the use of patents and other intellectual property owned by others, which relate to our products and their manufacture. In addition to owning a large portfolio of intellectual property, we also license intellectual property to and from third parties. For example, the U.S. Government has certain rights in our patents and other intellectual property developed in performance of certain government contracts, and it may use or authorize others to use the inventions covered by such patents for government purposes as allowed by law.

Intellectual property not covered by patents (or patent applications) includes trade secrets and other technological know-how that is not patentable or for which we have elected not to seek patent protection, including intellectual property relating to our manufacturing processes and engineering designs. Such unpatented technology, including research, development and engineering technical skills and know-how, as well as unpatented software, is important to our overall business and to the operations of each of our segments.

While our intellectual property assets taken together are important, we do not believe our business or either of our segments would be materially affected by the expiration of any particular intellectual property right or termination of any particular intellectual property patent license agreement.

As of September 30, 2022, our Consolidated Balance Sheets includes \$460,580 of net intangible assets. This value represents the carrying values, net of amortization, of certain assets acquired in various business acquisitions and does not purport to represent the fair value of our acquired intellectual property as of September 30, 2022.

Environmental Matters and Climate Change

The Company is regulated by federal, state and international environmental laws governing our use, transport and disposal of substances and control of emissions. Compliance with these existing laws has not had a material impact on our capital expenditures, earnings or global competitive position.

We use hazardous materials and/or regulated materials in our manufacturing operations. We also own, operate, have acquired, and may in the future acquire facilities that were formerly owned and operated by others that used such materials. We believe the risk that a significant release of regulated materials has occurred in the past or will occur in the future cannot be completely eliminated or prevented. From time to time, we engage in environmental remediation activities, generally in coordination with other companies, pursuant to federal and state laws. In addition, we may be exposed to other environmental costs including participation in superfund sites or other similar jurisdictional initiatives. When it is reasonably probable that we will incur remediation costs at a site, and those costs can be reasonably estimated, we accrue a liability for such future costs with a related charge against our earnings. In formulating that estimate and recognizing those costs, we do not consider amounts expected to be recovered from insurance companies, or others, until such recovery is assured. Currently, we have no sites undergoing remediation.

Our manufacturing facilities generally do not produce volumes or quantities of byproducts, including greenhouse gases, that would be considered hazardous waste or otherwise harmful to the environment. We do not expect legislation currently pending or expected in the next several years to have a significant negative impact on our operations in any of our segments.

Domestic and foreign legislative initiatives on emissions control, renewable energy, and climate change tend to favorably impact the sale of our energy control products. For example, our Industrial segment produces energy control products that help our customers maximize engine efficiency and minimize wasteful emissions, including greenhouse gases.

Available Information

Through a link on the Investor Information section of our website, www.woodward.com, we make available, free of charge, the following filings as soon as reasonably practicable after they are electronically filed or furnished to the SEC: our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements on Schedule 14A, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as well as Section 16 reports of our officers and directors. The Securities and Exchange Commission (the “SEC”) also maintains a website that contains our SEC filings. The address of the site is www.sec.gov. We provide notifications of news or announcements regarding our financial performance, including SEC filings, investor events, press and earnings releases as part of our investor relations website. We have used, and intend to continue to use, our investor relations website, as well as the following as of the date of this filing, as means of disclosing material non-public information and for complying with the disclosure obligations under Regulation FD:

- Twitter: @woodward_inc
- Facebook: Facebook.com/woodwardinc
- Instagram: @woodward_inc
- LinkedIn: LinkedIn.com/company/woodward
- YouTube: YouTube.com/user/woodwardinc

None of the information contained on our website, or the above-mentioned social media sites, is incorporated into this document by reference.

Item 1A. Risk Factors

The following summarizes important factors that could individually, or together with one or more other factors, affect our business, results of operations, financial condition, and/or cash flows:

COVID-19 Pandemic Risks

The global COVID-19 pandemic (COVID-19) has led to significant volatility in virtually all product, service and economic markets, including financial markets, commodities (including oil and gas) and other industries (including the aviation industry), which has impacted our business, financial results and the achievement of our strategic objectives.

Global health concerns pertaining to COVID-19 and related government actions taken to reduce the spread of the virus and otherwise in response to the effects of the virus have impacted the economic environment, significantly increased economic uncertainty and reduced economic activity. The pandemic has also caused disruptions in global trade and labor markets. These have impacted global supply chain, which could impact the timeliness of shipments.

COVID-19 has adversely impacted, and will continue to adversely impact, our business, operations, financial condition, capital and results of operations. The extent of these impacts, particularly over time, depends on future developments, which are highly uncertain and difficult to predict, including, but not limited to, (i) the duration and magnitude of the pandemic, (ii) the actions taken to contain the virus or treat its impact, (iii) the impact of economic stimulus measures, and (iv) the extent to which economic and operating conditions and consumer and business spending return to their pre-pandemic levels.

The spread of COVID-19 has caused us to modify our business practices and operations, including enhancing our operations management teams and global supply chain to ensure the Company is efficiently utilizing inventory on hand, as well as increasing our internal processing capabilities. Moreover, we expect that the effects of the COVID-19 pandemic will heighten many of the other risks described herein.

Industry Risks

We operate in highly competitive industries and, if we are unable to compete effectively in one or more of our markets, our business, financial condition and results of operations will be adversely affected.

We face intense competition from a number of established competitors in the United States and abroad, some of which are larger in size or are divisions of large, diversified companies with substantially greater financial resources. In addition, global competition continues to increase. Changes in competitive conditions, including the availability of new technologies, products and services, the introduction of new channels of distribution, changes in OEM and aftermarket pricing, and further consolidation of companies in our industries, could impact our relationships with our customers and may adversely affect future sales and margins, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Further, the markets in which we operate experience rapidly changing technologies and frequent introductions of new products and services. The technological expertise we have developed and maintained could become less valuable if a competitor were to develop a breakthrough technology that would allow it to match or exceed the performance of existing technologies at a lower cost. If we are unable to develop competitive technologies, future sales or earnings could be lower than expected, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

A significant portion of our revenue is concentrated among a relatively small number of customers, which makes our business more vulnerable to fluctuations in sales to these customers and changes in their financial condition.

A significant portion of our revenue is concentrated among a relatively small number of customers. We have fewer customers than many companies with similar sales volumes. For the fiscal year ended September 30, 2022, sales to our largest 5 customers represented approximately 43% of our consolidated net sales and approximately 41% of our accounts receivable. If any of our significant customers were to change suppliers, in-source production, institute significant restructuring or cost-cutting measures, or experience financial distress, these significant customers may substantially reduce, or otherwise be unable to pay for, purchases from us. Accordingly, our consolidated net sales could decrease significantly, or we may experience difficulty collecting, or be unable to collect, amounts due and payable, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

In October 2018 and March 2019, two commercial aircraft accidents led to the grounding by the Federal Aviation Administration (“FAA”) and other regulators of the Boeing 737 MAX aircraft, on which we have significant content. The grounding of the Boeing 737 MAX aircraft by the FAA and other regulators, which started in March of 2019 and continued through November 2020, caused deliveries of that aircraft to be zero in fiscal year 2020. As the aircraft return to service progresses, having been recertified in every jurisdiction except China, we anticipate a large majority of the deliveries missed in fiscal years 2019 through 2022 will be fulfilled in future periods, although at a slower rate than previously estimated. Although we anticipate a slow recovery of the OEM and a slightly better recovery of the initial provisioning sales as the aircraft’s return to service progresses, the previous grounding of the Boeing 737 MAX could further decrease our OEM and initial provisioning sales for the 737 MAX and CFM LEAP engines in the near term, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

The long sales cycle, customer evaluation process, and implementation period of our products and services may increase the costs of obtaining orders and reduce the predictability of sales cycles and our inventory requirements.

Our products and services are technologically complex and require significant capital commitments. Prospective customers generally must commit significant resources to test and evaluate our products and to install and integrate them into larger systems. Accordingly, customers often require a significant number of product presentations and demonstrations before reaching a sufficient level of confidence in the product’s performance and compatibility. In addition, orders expected in one quarter may shift to another quarter or be cancelled with little advance notice as a result of customers’ budgetary constraints, internal acceptance reviews, and other factors affecting the timing of customers’ purchase decisions. The difficulty in forecasting demand increases the challenge in anticipating sales cycles and our inventory requirements, which may cause us to over-produce finished goods and could result in inventory write-offs, or could cause us to under-produce finished goods. Any such over-production or under-production could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our participation in a strategic joint venture with GE may make it more difficult to secure long-term sales in certain aerospace markets.

In January 2016, Woodward and GE, acting through its GE Aerospace business unit, consummated the formation of a strategic joint venture between Woodward and GE (the “JV”). The JV agreement does not restrict Woodward from entering into any market; however, consolidation in the aircraft engine market is increasingly prevalent, resulting in fewer engine manufacturers, and thus it may become more difficult for Woodward to secure new business with GE competitors on similar product applications both within and outside the specific JV market space. Additionally, if GE fails to win new content in the market space covered by the JV, Woodward may be prevented from expanding content on future commercial aircraft engines in those markets.

General Commercial, Financial, and Regulatory Risks

Suppliers may be unable to provide us with materials of sufficient quality or quantity to meet our production needs at favorable prices or at all which may adversely affect our revenue and margins.

We are dependent upon suppliers for parts and raw materials used in the manufacture of products that we sell to our customers, and our raw material costs are subject to commodity market fluctuations and were impacted by the current inflationary environment. We have experienced shortages of certain parts and raw materials due to the ongoing supply chain disruptions. We may continue to experience shortages of parts or raw materials for the same or other reasons, such as the loss of a significant supplier, high overall demand creating shortages in parts and supplies we use, financial distress, work stoppages, natural disasters, fluctuations in commodity prices, the imposition of tariffs or other duties, or production or distribution difficulties that may affect one or more of our suppliers. In some instances, we depend upon a single source of supply, manufacturing, or logistics support or participate in commodity markets that may be subject to allocations of limited supplies by suppliers. Some of our suppliers have experienced, and others may similarly experience, financial difficulties, delivery delays or other performance problems, and we have from time to time been, and may in the future be, unable to meet commitments to our customers and/or incur additional costs. Our customers rely on us to provide on-time delivery and have certain rights if our delivery standards are not maintained. A significant increase in our supply costs, including for raw materials that are subject to commodity price fluctuations, inflationary pressures, and/or the imposition of tariffs, or a protracted interruption of supplies for any reason, could result in the delay of one or more of our customer contracts, increase our costs, result in lost revenue or could damage our reputation and relationships with customers. In addition, quality and sourcing issues that our suppliers may experience can also adversely affect the quality and effectiveness of our products and services and may result in liability or reputational harm to us. Any of these events could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our profitability may suffer if we are unable to manage our expenses in connection with sales increases, sales decreases, or if we experience change in product mix.

Some of our expenses are relatively fixed in relation to changes in sales volume and are difficult to adjust in the short term. Expenses driven by business activity other than sales level and other long-term expenditures, such as fixed manufacturing costs, capital expenditures and research and development expenses may be difficult to reduce in a timely manner in response to a reduction in sales. In periods of rapid sales increases it may be difficult to quickly increase our production of finished goods because of our long manufacturing lead times. If a sudden, unanticipated need for raw materials, components and labor arises, we could experience difficulties in sourcing these items at a favorable cost, in sufficient quantities or at all. These factors could result in delays in fulfilling customer sales contracts, lost revenue, damage to our reputation and relationships with our customers, and an inability to meet market demand, which in turn could prevent us from taking advantage of business opportunities or responding to competitive pressures and could result in an increase in costs leading to a decrease in net earnings or even net losses. In addition, we sell products that have varying profit margins, and fluctuations in the mix of sales of our various products may affect our overall profitability.

Reductions, delays or changes in U.S. Government spending could adversely affect our business.

Sales made directly to U.S. Government agencies and entities, or indirectly through third party manufacturers, such as tier-one prime contractors, utilizing Woodward parts and subassemblies, accounted for approximately 23% of total sales in fiscal year 2022 and 29% in fiscal year 2021.

The U.S. Government participates in a wide variety of operations, including homeland defense, counterinsurgency, counterterrorism, and other defense-related operations that employ our products and services. U.S. defense spending has historically been cyclical in nature and is subject to periodic congressional authorization and appropriation actions. The level of U.S. defense spending may be impacted by numerous factors outside of our control such as changes in the perceived threat environment, U.S. foreign policy, changes in security, defense, and intelligence priorities, shifts in domestic and international spending and tax policy, budget deficits and competing budget priorities, and the overall economic and political environment.

Defense budgets tend to rise when perceived threats to national security increase the level of concern over the country's safety, but we can provide no assurance that an increase in defense spending will be allocated to programs that would benefit our business. Decreases in U.S. Government defense spending, changes in the spending allocation, phase-outs or terminations of certain aerospace and defense programs on which we have content could have a material adverse effect on our sales unless they are offset by other aerospace and defense programs and opportunities. If the priorities of

the U.S. Government change and/or defense spending is reduced, this may adversely affect our business, financial condition, results of operations, and cash flows.

Our business may be adversely affected by risks unique to government contracting.

Our contracts with the U.S. Government are subject to certain unique risks, including the risks set forth below, some of which are beyond our control, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

- Our U.S. Government contracts and the U.S. Government contracts of our customers are subject to modification, curtailment or termination by the government, either for the convenience of the government or for default as a result of a failure by us or our customers to perform under the applicable contract. If any of our contracts are terminated by the U.S. Government, our backlog would be reduced, in accordance with contract terms, by the expected value of the remaining work under such contracts. In addition, we are not the prime contractor on most of our contracts for supply to the U.S. Government, and the U.S. Government could terminate a prime contract under which we are a subcontractor, irrespective of the quality of our products and services as a subcontractor.
- We must comply with procurement laws and regulations relating to the formation, administration and performance of our U.S. Government contracts and the U.S. Government contracts of our customers. The U.S. Government may change procurement laws and regulations from time to time. A violation of U.S. Government procurement laws or regulations, a change in U.S. Government procurement laws and regulations, or a termination arising out of our default could expose us to liability, debarment, or suspension and could have an adverse effect on our ability to compete for future contracts and orders.
- We are subject to government inquiries, audits and investigations due to our business relationships with the U.S. Government and the heavily regulated industries in which we do business. In addition, our contract costs are subject to audits by the U.S. Government. U.S. Government agencies, including the Defense Contract Audit Agency and the Defense Contract Management Agency, routinely audit government contractors and subcontractors. These agencies review our performance under contracts, cost structure and compliance with applicable laws, regulations, and standards, as well as the adequacy of and our compliance with our internal control systems and policies. Any costs found to be misclassified or inaccurately allocated to a specific contract would be deemed non-reimbursable, and to the extent already reimbursed, would be refunded. Any inadequacies in our systems and policies could result in withholdings on billed receivables, penalties and reduced future business. Any inquiries or investigations, including those related to our contract pricing, could potentially result in civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines, suspension, and/or debarment from participating in future business opportunities with the U.S. Government. Such actions could harm our reputation, even if such allegations are later determined to be unfounded, and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our debt obligations and the restrictive covenants in the agreements governing our debt could limit our ability to operate our business or pursue our business strategies, could adversely affect our business, financial condition, results of operations, and cash flows, and could significantly reduce stockholder benefits from a change of control event.

As of September 30, 2022, our total debt was \$777,416, including \$550,000 in unsecured notes denominated in U.S. dollars issued in private placements and \$156,793 of unsecured notes denominated in Euros issued in private placements. We are obligated to make interest and scheduled principal payments under the agreements governing our long-term debt, which requires us to dedicate a portion of our cash flow from operations to payments on our indebtedness, and which may reduce the availability of our cash flow for other purposes, including business development efforts and mergers and acquisitions. These debt obligations could make us more vulnerable to general adverse economic and industry conditions and could limit our flexibility in planning for, or reacting to, changes in our business and the industries in which we operate, thereby placing us at a disadvantage to our competitors that have less indebtedness. Further, we may require additional capital to repay our debt obligations when they mature, and such capital may not be available on terms acceptable to us or at all.

Our existing revolving credit facility and note purchase agreements impose financial covenants on us and our subsidiaries that require us to maintain certain leverage ratios and minimum levels of consolidated net worth. Certain of these agreements require us to repay outstanding borrowings with portions of the proceeds we receive from certain sales of property or assets and specified future debt offerings.

These financial covenants place certain restrictions on our business that may affect our ability to execute our business strategy successfully or take other actions that we believe would be in the best interests of our Company. These covenants include limitations or restrictions, among other things, on our ability and the ability of our subsidiaries to:

- incur additional indebtedness;
- pay dividends or make distributions on our capital stock or certain other restricted payments or investments;
- purchase or redeem stock;
- issue stock of our subsidiaries;
- make domestic and foreign investments and extend credit;
- engage in transactions with affiliates;
- transfer and sell assets;
- effect a consolidation or merger or sell, transfer, lease, or otherwise dispose of all or substantially all of our assets; and
- create liens on our assets to secure debt.

These agreements contain certain customary events of default, including certain cross-default provisions related to other outstanding debt arrangements. Any breach of the covenants under these agreements or other event of default could cause a default under these agreements and/or a cross-default under our other debt arrangements, which could restrict our ability to borrow under our revolving credit facility. If there were an event of default under certain provisions of our debt arrangements that was not cured or waived, the holders of the defaulted debt may be able to cause all amounts outstanding with respect to the debt instrument, plus any required settlement costs, to be due and payable immediately. Our assets and available cash balances may not be sufficient to fully repay borrowings under our outstanding debt instruments if accelerated upon an event of default. If we are unable to repay, refinance, or restructure our indebtedness as required, or amend the covenants contained in these agreements, the lenders or note holders may be entitled to obtain a lien or institute foreclosure proceedings against our assets. Any of these events could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Additional tax expense or additional tax exposures could impact our future profitability.

We are subject to income taxes in both the United States and jurisdictions outside of the United States. Our tax liabilities are dependent upon the distribution mix of operating income among these different jurisdictions. Our tax expense includes estimates of additional tax that may be incurred and reflects various estimates, projections, and assumptions that could impact the valuation of our deferred tax assets and liabilities. Our future operating results could be adversely affected by changes in the effective tax rate, which could be caused by, among other things:

- changes in the mix of earnings in countries with differing statutory tax rates;
- changes in our overall profitability;
- changes in rules or interpretations of existing tax laws;
- changes in U.S. federal tax legislation and tax rates;
- changes in state or non-U.S. government tax legislation and tax rates;
- changes in tax incentives;
- changes in U.S. GAAP;
- changes in the projected realization of deferred tax assets and liabilities;
- changes in management's assessment of the amount of earnings indefinitely reinvested offshore;
- changes in management's intentions regarding the amount of earnings reinvested offshore; and
- the results of audits and examinations of previously filed tax returns and continuing assessments of our tax exposures.

We derive a significant amount of revenue and obtain components from outside of the United States; accordingly, we are subject to the risks inherent in doing business in other countries.

In fiscal year 2022, approximately 45% of our total sales were made to customers in jurisdictions outside of the United States (including products manufactured in the United States and sold outside the United States as well as products manufactured in international locations). We also purchase raw materials and components from suppliers outside the United States. Accordingly, our business and results of operations are subject to risks associated with doing business internationally, including:

- transportation delays and interruptions;
- political, social and economic instability and disruptions;
- acts of terrorism or war;
- the imposition of taxes, import and export controls, duties and tariffs, embargoes, sanctions and other trade restrictions;
- fluctuations in currency exchange rates;
- changes in regulatory environments;
- cost of compliance with increasingly complex and often conflicting regulations governing various matters worldwide;
- cost of labor, labor shortages and other changes in labor conditions;
- the potential for nationalization of enterprises;
- potential limitations on the Company's ability to enforce legal rights and remedies, including protection of intellectual property;
- difficulty of enforcing agreements and collecting receivables through some foreign legal systems;
- potentially adverse tax consequences, including limitations on repatriations of earnings; and
- difficulties in implementing restructuring actions on a timely basis.

The implementation of tariffs (such as those implemented by the United States and China in recent years) could increase the cost of certain commodities and/or limit their supply. Over the longer term, tariffs could significantly increase our costs and our ability to pass such increased costs along to our customers may be limited, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We are subject to and must comply with U.S. laws restricting or otherwise prohibiting companies from doing business in certain countries, including those on exports imposed under the U.S. Export Control Laws and Sanctions Programs. These laws and regulations change from time to time and may restrict sales to other countries or parties.

We are subject to the U.S. Foreign Corrupt Practices Act ("FCPA") and similar anti-bribery and anti-corruption laws and regulations in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business or securing an improper business advantage. We operate in many parts of the world and sell to industries that have experienced corruption to some degree. If we are found to be liable for FCPA or other similar anti-bribery law or regulatory violations, we could be subject to civil and criminal penalties or other sanctions that could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Also, a material disruption to the financial institutions with whom we transact business could have a material adverse effect on our international operations or on our business, financial condition, results of operations, and cash flows.

Changes in the estimates of fair value of reporting units or of long-lived assets, particularly goodwill, may result in future impairment charges, which could have a material adverse effect on our business, financial condition, and results of operation.

Over time, the fair values of long-lived assets change. At September 30, 2022, we had \$772,559 of goodwill, representing 20% of our total assets. We test goodwill for impairment at the reporting unit level on at least an annual basis or more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Future goodwill impairment charges may occur if estimates of fair values decrease, which would reduce future earnings. Future asset impairment charges may occur if asset utilization declines, if customer demand decreases, or for a number of other reasons, which would reduce future earnings. Any such impairment charges could have a material adverse effect on our business, financial condition and results of operations.

There can be no assurance that our estimates and assumptions of the fair value of our reporting units, the current economic environment, or the other inputs used in forecasting the present value of forecasted cash flows used to estimate the fair value of our reporting units will prove to be accurate projections of future performance, and any material error in our estimates and assumptions, could result in us needing to take a material impairment charge, which would have the effects discussed above.

Our financial and operating performance depends on continued access to a stable workforce and on favorable labor relations with our employees.

Due to the specialized nature of our business, competition for technical personnel is intense and our future performance is highly dependent on our ability to hire, train, assimilate, and retain a qualified workforce. Additionally, it is important we hire and retain personnel with relevant experience in local laws, regulations, customs, traditions and business practices to support our international operations. Our ability to hire, train, assimilate and retain a qualified workforce has been impacted by the ongoing labor market disruptions. There is no assurance that we will continue to be successful in recruiting qualified employees in the future. Further, approximately 13% of our workforce in the United States is unionized, and certain of our operations in the United States and internationally involve different employee/employer relationships and the existence of works' councils. We periodically need to renegotiate our collective bargaining agreements, and any failure to negotiate new agreements or extensions in a timely manner could result in work stoppages or slowdowns. Any significant increases in labor costs, deterioration of employee relations, including any conflicts with works' councils or unions, or slowdowns or work stoppages at any of our locations, whether due to employee turnover, changes in availability of qualified technical personnel, failure to have a collaborative and effective relationship with our employees, including our union employees, or an effective collective bargaining agreement in place with our union employees, or otherwise, could impair our ability to supply products or fulfil orders, and could otherwise have a material adverse effect on our business, our relationships with customers, and our financial condition, results of operations, and cash flows.

Our operations and suppliers may be subject to physical and other risks that could disrupt our operations.

Our operations and sources of supply could be disrupted by unforeseen events, including fires, tornadoes, tsunamis, hurricanes, earthquakes, floods and other forms of severe weather in countries in which we operate or in which our suppliers are located, any of which could adversely affect our operations and financial performance. Natural disasters, public health concerns, war, political unrest, terrorist activity, equipment failures, power outages, or other unforeseen events could result in physical damage to or other disruption of, and complete or partial closure of, one or more of our manufacturing facilities, or could cause temporary or long-term disruption in the supply of component products from some local and international suppliers, disruption in the transport of our products and significant delays in the shipment of products and the provision of services, which could in turn cause the loss of sales and customers. Existing insurance arrangements may not provide protection for all the costs that may arise from such events. Accordingly, disruption of our operations or the operations of a significant supplier could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our intellectual property rights may not be sufficient to protect all our products or technologies and we may, regardless of intent, infringe on the intellectual property rights of others.

Our success depends in part on our ability to obtain patents or rights to patents, protect trade secrets and know-how, and prevent others from infringing on our patents, trademarks, and other intellectual property rights. We cannot be certain that our pending patent applications will result in the issuance of patents to us, that patents issued to or licensed by us in the past or in the future will not be challenged or circumvented by competitors, or that these patents will be found to be valid or sufficiently broad to preclude our competitors from introducing technologies similar to those covered by our patents and patent applications. Some of our intellectual property is not covered by patents (or patent applications) and includes trade secrets and other know-how that is not patentable or for which we have elected not to seek patent protection, including intellectual property relating to our manufacturing processes and engineering designs. We will be able to protect our intellectual property from unauthorized use by third parties only to the extent that it is covered by valid and enforceable patents, trademarks, licenses or other valid intellectual property rights. Patent protection generally involves complex legal and factual questions and, therefore, enforceability of patent rights cannot be predicted with certainty; thus, any patents that we own or license from others may not provide us with adequate protection against competitors. Moreover, the laws of certain foreign jurisdictions do not recognize intellectual property rights or protect them to the same extent as do the laws of the United States.

Additionally, our current or future technologies may, regardless of our intent, infringe upon the patents or violate other proprietary rights of third parties. In the event of such infringement or violation, we may face expensive litigation or indemnification obligations and may be prevented from selling existing products and pursuing product development or commercialization. If we are unable to sufficiently protect our patent and other proprietary rights or if we infringe on the patent or proprietary rights of others, our business, financial condition, results of operations, and cash flows could be materially adversely affected.

Amounts accrued for contingencies may be inadequate to cover the amount of loss when the matters are ultimately resolved.

We are currently involved or may become involved in legal, regulatory and other proceedings arising in the ordinary course of business. These proceedings may include, without limitation, product liability matters, intellectual property matters, contract disputes or claims, pending or threatened litigation, governmental investigations, as well as employment, tax, environmental, or other matters. There is no certainty that the results of these matters will be favorable to the Company. We accrue for known individual matters if we believe it is probable that the matter will result in a loss when ultimately resolved using estimates of the most likely amount of loss. There may be additional losses that have not been accrued, or liabilities may exceed our estimates, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our business and operations may be adversely affected by cybersecurity breaches or other information technology system or network interruptions or intrusions.

We depend heavily on information technology (“IT”) and computerized systems to communicate and operate effectively. We store sensitive data including proprietary business information, intellectual property, classified information, customer information, supplier information, and confidential employee or other personal data on our servers and databases. Also, due to political uncertainty and military actions associated with the conflict between Russia and Ukraine, we are vulnerable to heightened risks of cybersecurity incidents and security breaches initiated by nation-state or affiliated actors.

From time to time, we have experienced cyberattacks on our IT infrastructure and systems. We may become the target of cyberattacks by third parties seeking unauthorized access to our data or our customers’ data or to disrupt our operations or our ability to provide services. There is also a danger of loss, misuse, theft, unavailability, or unauthorized disclosure or other processing of information or assets (including source code), or damage to or other compromise of systems, components and other IT assets, including the introduction of malicious code or other vulnerabilities by people who obtain unauthorized access to our facilities, systems or information. There are many different techniques used to obtain unauthorized access to systems and data, and such techniques continue to evolve and become more sophisticated, and the adversaries are becoming more advanced, including nation states and actors sponsored by or affiliated with nation states, which target us and other defense contractors because we protect national security information, and other actors with substantial financial and technological resources. These techniques include, but are not limited to, the use of malicious software, destructive malware, ransomware, denial of service attacks, phishing and other means of social engineering, and other means of causing system or network disruptions, obtaining unauthorized access to data or systems, or causing other cybersecurity breaches and incidents. Additionally, system and service disruptions, and cybersecurity breaches or incidents, may result from employee or contractor error, negligence, or malfeasance. Due to the rapidly evolving threat environment and other factors, we may not be successful in defending against all such attacks. Further, due to the evolving nature of these security threats and the national security aspects of much of the data we protect, the full impact of any future security breach or incident cannot be predicted. We employ a number of measures, including technical security controls, employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems. However, our IT infrastructure, systems, networks, products, solutions and services remain potentially vulnerable to numerous additional known or unknown threats. Additionally, there have been and may continue to be significant cyberattacks on, and other attempts to compromise the security of, the supply chain. We may experience security breaches or incidents resulting from tools, services, or other third-party components and security vulnerabilities within, or introduced by, such tools, services, or components.

If any of our IT infrastructure or systems are damaged, disrupted, or are impacted by security breaches or incidents, whether from cybersecurity attacks or other causes, or if we suffer any security breach or incident involving unauthorized access to, misuse, acquisition, disclosure, loss, alteration, or destruction of our data or other data we maintain or otherwise process, we could experience significant operational stoppages, disruptions, delays, and/or other detrimental impacts on our operations, and may face increased costs, including increased costs of implementing new data protection and security measures, policies, and procedures, and costs associated with remediating and otherwise responding to the security breach or incident. Any such security breach or incident or the perception that it has occurred, also may result in diminished competitive advantages through reputational damage and increased operational costs, regulatory investigations, proceedings, and orders, litigation or other demands, indemnity obligations, damages for contract breach, fines or penalties relating to actual or alleged violation of applicable laws, regulations, or contractual obligations, incentives offered to customers or other business partners in an effort to maintain business relationships, and other costs and liabilities. Such events could result in fines, penalties, litigation or governmental investigations and proceedings, diminished competitive advantages through reputational damages and increased operational costs, any of which could have a material adverse effect on our business, financial condition, results of operations, and cash flows. Further, any unauthorized disclosure or use or acquisition of our intellectual property and/or confidential business information could harm our competitive position, result in a loss of intellectual property protection, and otherwise reduce the value of our investment in research and development and other strategic initiatives or otherwise adversely affect our business.

Our insurance coverage may not be sufficient to compensate for all liability relating to any actual or potential disruption or other security breach or incident. We cannot be certain that our coverage will be adequate for liabilities actually incurred, that insurance will continue to be available to us on economically reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, operating results, and reputation.

Increasing emission standards that drive certain product sales may be eased or delayed, which could reduce our competitive advantage.

We sell components and systems that have been designed to meet strict emission standards, including standards that have not yet been implemented but are expected to be implemented soon. If these emission standards are eased, developed products may become unnecessary and/or our future sales could be lower as potential customers select alternative products or delay adoption of our products, which would have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Prices for fossil fuels may increase significantly and disproportionately to other sources of fuels used for power generation, which could reduce our sales and adversely affect our business, financial condition, results of operations, and cash flows.

Commercial producers of electricity use many of our components and systems, most predominately in their power plants that use natural gas as their fuel source. Commercial producers of electricity are often in a position to manage the use of different power plant facilities and make decisions based on operating costs. Compared to other sources of fuels used for power generation, natural gas prices have increased slower than fuel oil, but about the same as coal. This increase in natural gas prices and any future increases, whether in absolute dollars or relative to other fuel costs such as oil, could impact the sales mix of our components and systems, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Long-term reduced commodity prices for oil, natural gas, and other minerals may depress the markets for certain of our products and services, particularly those from our Industrial segment.

Many of our Industrial segment OEM and aftermarket customers and our Aerospace segment rotorcraft product lines' customers provide goods and services that support various industrial extraction activities, including mining, oil and gas exploration and extraction, and transportation of raw materials from extraction sites to refineries and/or processing facilities. Long-term lower prices for commodities such as oil, natural gas, gold, tin, and various other minerals could reduce exploration activities and place downward pressure on demand for our goods and services that support exploration and extraction activities.

Business Risks

Our product development activities may not be successful, may be more costly than currently anticipated, or we may not be able to produce newly developed products at a cost that meets the anticipated product cost structure.

Our business involves a significant level of product development activities, generally in connection with our customers' development activities. Industry standards, customer expectations, or other products may emerge that could render one or more of our products or services less desirable or obsolete. Additionally, our competitors may develop new technology, or more efficient ways to produce their existing products that could cause our existing products or services to become less desirable or obsolete. Maintaining our market position requires continued investment in research and development. During an economic downturn or a subsequent recovery, we may need to maintain our investment in research and development, which may limit our ability to reduce these expenses in proportion to a sales shortfall.

In addition, increased investments in research and development may divert resources from other potential investments in our business, such as acquisitions or investments in our facilities, processes and operations. If these activities are not as successful as currently anticipated, are not completed on a timely basis, or are more costly than currently anticipated, or if we are not able to produce newly developed products at a cost that meets the anticipated product cost structure, then our future sales, margins and/or earnings could be lower than expected, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Product liability claims, product recalls or other liabilities associated with the products and services we provide may force us to pay substantial damage awards and other expenses that could exceed our accruals and insurance coverage.

The manufacture and sale of our products and the services we provide expose us to risks of product and other tort claims, and any resulting liability. We currently have and have had in the past product liability claims relating to our products, and we will likely be subject to additional product liability claims in the future for past, current and future products. Some of these claims may have a material adverse effect on our business, financial condition, results of operations and cash flows. We also provide certain services to our customers and are subject to claims with respect to the services provided. In providing such services, we may rely on subcontractors to perform all or a portion of the contracted services. It is possible that we could be liable to our customers for work performed by a subcontractor.

Regardless of the outcome, product liability claims can be expensive to defend, can divert the attention of management and other personnel for significant periods of time, and can cause reputational damage. While we believe that we have appropriate insurance coverage available to us related to any such claims, our insurance may not cover all liabilities or be available in the future at a cost acceptable to us. An unsuccessful result in connection with a product liability claim, where the liabilities are not covered by insurance or for which indemnification or other recovery is not available, could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

We may be unable to successfully execute or effectively integrate acquisitions, and divestitures may not occur as planned.

As part of our business strategy, we have pursued, and expect to pursue acquisitions of other companies and assets. The success of these transactions depends on, among other things, our ability to integrate these businesses into our operations and realize the planned synergies. Integration of acquired operations may take longer, or be more costly or disruptive to our business, than originally anticipated. The integration of these acquisitions may require significant attention from our management, and the diversion of management's attention and resources could have a material adverse effect on our ability to manage our business. We may also incur costs and divert management attention to acquisitions that are never consummated.

Difficulties in the integration of the acquired business may include consolidating the operations, processes and systems of the acquired business, retaining and motivating key management and employees, and integrating existing business relationships with suppliers and customers. Even if integration is successful, the financial and operational results may differ materially from our assumptions and forecasts due to unforeseen expenses, delays, conditions and liabilities. Evolving regulations such as changes in tax, trade, environmental, labor, safety, payroll or pension policies could increase the expected costs of acquisitions, and fluctuations in foreign currency exchange rates may impact the agreed upon purchase price. In addition, we may incur unanticipated costs or expenses following an acquisition, including post-closing asset impairment charges, expenses associated with eliminating duplicate facilities, and other liabilities.

Many of these factors are outside of our control and any one of them could result in increased costs, decreases in the amount of expected revenues, and diversion of management's time and attention. Failure to successfully implement our acquisition strategy, including successfully integrating acquired businesses, could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

We also may make strategic divestitures from time to time, such as the divestiture of our renewable power systems business and related businesses. These transactions may result in continued financial involvement in the divested businesses, such as through guarantees or other financial arrangements, following the transaction. Nonperformance by those divested businesses could affect our future financial results through additional payment obligations, higher costs or asset write-downs, any of which could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our restructuring activities may increase our expenses and reduce our profitability, and may not have the intended effects.

From time to time, we have implemented restructuring and other actions designed to reduce structural costs, improve operational efficiency and position the Company for long-term profitable growth. Historically, our restructuring activities have included workforce management and other restructuring charges related to acquired businesses. Due to cost reduction measures or changes in the industries and markets in which we compete, we may decide to implement restructuring or alignment activities in the future, such as closing plants, moving production lines, or making additions, reductions or other changes to our management or workforce. These restructuring and/or alignment activities generally result in charges and expenditures that may adversely affect our financial results for one or more periods.

Restructuring and/or alignment activities can also create unanticipated consequences, such as instability or distraction among our workforce, and we cannot be sure that any restructuring or alignment efforts that we undertake will be successful. A variety of risks could cause us not to realize expected cost savings, including, among others, higher than expected severance costs related to staff reductions, higher than expected costs of closing plants, higher costs to hire new employees or delays or difficulty hiring the employees needed, higher than expected operating costs associated with moving production lines, delays in the anticipated timing of activities related to our cost-saving plan, and other unexpected costs associated with operating the business.

If we are unable to structure our operations in the light of evolving market conditions, it could have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Our manufacturing activities may result in future environmental costs or liabilities.

We use hazardous materials and/or regulated materials in our manufacturing operations. We also own, operate, have acquired, and may in the future acquire facilities that were formerly owned and operated by others that used such materials. The risk that a significant release of regulated materials has occurred in the past or will occur in the future cannot be completely eliminated or prevented. As a result, we are subject to a substantial number of costly regulations and we must conform our operations to applicable regulatory requirements in all countries in which we operate. To the best of our knowledge, we have been and will be at all times, in complete compliance with all environmental requirements, or that we will not incur additional material costs or liabilities in connection with these requirements.

In addition, we may be subject to other environmental remediation costs such as participation in superfund sites or other similar jurisdictional initiatives. As a result, we may incur material costs or liabilities or be required to undertake future environmental remediation activities that could damage our reputation and have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Failure of our production lines, or those of our subcontractors, to meet required certification standards could disrupt production.

Our existing production lines, as well as the production lines of our subcontractors, are sometimes required to pass varying levels of qualification with certain of our customers. Some of our customers require that our production lines pass their specific qualification standards and that we, and any subcontractors that we may use, be registered under or certified to certain U.S. or international quality standards. We may be unable to obtain, maintain, or we may experience delays in obtaining, a certification or registration to a required quality standard. A delay in obtaining, or the failure to obtain a necessary quality certification or registration could result in significant out-of-sequence work and increased production costs, as well as delayed deliveries to customers, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Item 1B. Unresolved Staff Comments

None.

Item 2 Properties

The following is a summary of our principal facilities as of September 30, 2022:

Country	Location	Plants	Owned/Leased	Segment	Purpose
United States	Fort Collins, CO	2	Owned	Aerospace & Industrial	Corporate Headquarters; Manufacturing and engineering
United States	Greenville, SC	1	Leased	Industrial	Manufacturing and engineering
United States	Loveland, CO	1	Leased	Aerospace & Industrial	Manufacturing and engineering
United States	Niles, IL	1	Owned	Aerospace	Manufacturing and engineering
United States	Rockford, IL	2	Owned	Aerospace	Manufacturing and engineering
United States	Santa Clarita, CA	1	Owned	Aerospace	Manufacturing and engineering
United States	Windsor, CO	1	Owned	Aerospace & Industrial	Manufacturing and engineering
United States	Zeeland, MI	1	Owned	Aerospace	Manufacturing and engineering
Germany	Aken	1	Leased	Industrial	Manufacturing and engineering
Germany	Glatten	1	Owned	Industrial	Manufacturing
Germany	Stuttgart	2	Owned/Leased	Industrial	Engineering
Poland	Krakow	1	Owned	Aerospace & Industrial	Manufacturing and engineering
China	Tianjin	1	Leased	Industrial	Assembly

In addition to the principal plants listed above, we own or lease other facilities used primarily for sales, service activities, assembly, and/or engineering activities in Australia, Brazil, Bulgaria, China, India, Japan, the Netherlands, the Republic of Korea, Saudi Arabia, Singapore, the United Kingdom, Germany, and the United States.

Our principal plants are suitable and adequate for the manufacturing and other activities performed at those plants, and we believe our utilization levels are generally high.

Item 3. Legal Proceedings

Woodward is currently involved in pending or threatened litigation or other legal proceedings, investigations, claims and/or regulatory proceedings arising in the normal course of business, including, among others, those relating to product liability claims, employment matters, worker's compensation claims, contractual disputes, product warranty claims and alleged violations of various laws and regulations. Woodward accrues for known individual matters using estimates of the most likely amount of loss where it believes that it is probable the matter will result in a loss when ultimately resolved and such loss is reasonably estimable.

While the outcome of pending claims, legal and regulatory proceedings, and investigations cannot be predicted with certainty, management believes that any liabilities that may result from these claims, proceedings and investigations will not have a material effect on Woodward's liquidity, financial condition, or results of operations.

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

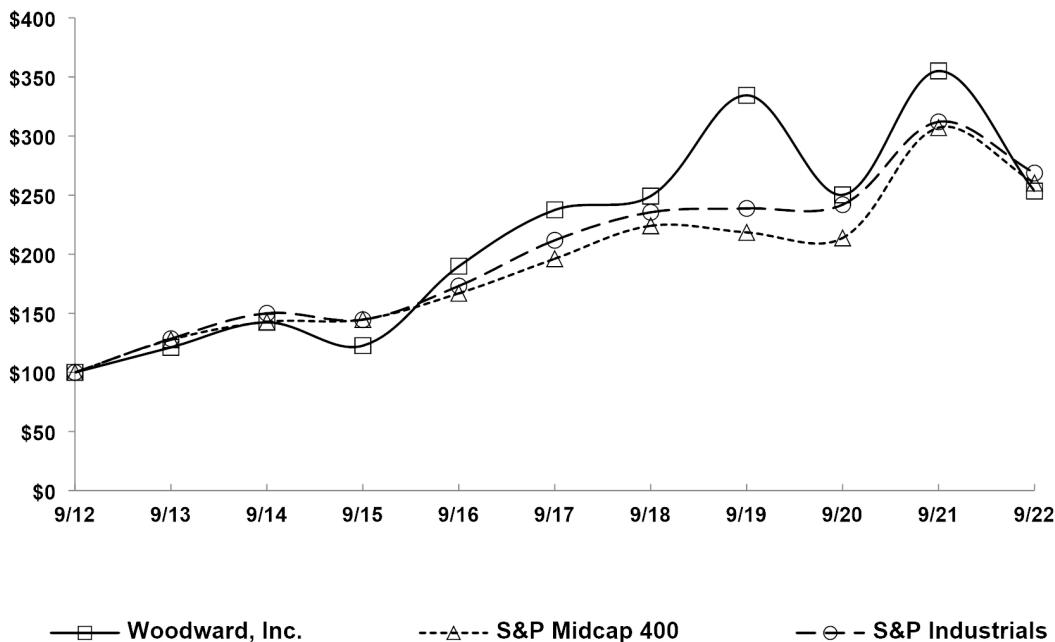
Our common stock is listed on The NASDAQ Global Select Market and is traded under the symbol "WWD." At November 17, 2022, there were approximately 500 holders of record.

Performance Graph

The following graph compares the cumulative 10-year total return to stockholders on our common stock relative to the cumulative total returns of the S&P Midcap 400 index and the S&P Industrials index. The graph shows total stockholder return assuming an investment of \$100 (with reinvestment of all dividends) was made on September 30, 2012 in our common stock and in each of the two indexes and tracks relative performance through September 30, 2022. We have used a period of 10 years as we believe that our stock performance should be reviewed over a period that is reflective of our long-term business cycle.

COMPARISON OF 10 YEAR CUMULATIVE TOTAL RETURN*

Among Woodward, Inc., the S&P Midcap 400 Index
and the S&P Industrials Index



*\$100 invested on 9/30/12 in stock or index, including reinvestment of dividends.
Fiscal year ending September 30.

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	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22
Woodward, Inc.	\$100.00	\$121.19	\$142.36	\$122.62	\$189.82	\$237.50	\$249.23	\$334.50	\$250.23	\$355.10	\$253.47
S&P Midcap 400	100.00	127.68	142.77	144.76	166.95	196.19	224.07	218.48	213.76	307.14	260.30
S&P Industrials	100.00	128.50	150.07	144.59	173.13	211.83	235.52	238.79	241.95	312.02	268.75

The stock price performance included in this graph is not necessarily indicative of future stock price performance

Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

(In thousands, except per share amounts)

Issuer Purchases of Equity Securities <i>(In thousands, except for shares and per share amounts)</i>	Total Number of Shares Purchased	Weighted Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number (or Approximate Dollar Value) of Shares that may yet be Purchased under the Plans or Programs at Period End (1)
July 1, 2022 through July 31, 2022 (2)	387	\$ 104.70	—	\$ 399,025
August 1, 2022 through August 31, 2022 (2)	448,709	100.50	448,416	353,959
September 1, 2022 through September 30, 2022 (2)	13	80.26	—	353,959

- (1) In November 2019, our board of directors (“the Board”) approved a stock repurchase program for the repurchase of up to \$500,000 of Woodward’s outstanding shares of common stock on the open market or in privately negotiated transactions over a three-year period that will end in November 2022 (the “2019 Authorization”). In January 2022, the Board terminated the 2019 Authorization and concurrently authorized a program for the repurchase of up to \$800,000 of Woodward’s outstanding shares of common stock on the open market or in privately negotiated transactions over a two-year period ending in January 2024 (the “2022 Authorization”).
- (2) Under a trust established for the purposes of administering the Woodward Executive Benefit Plan, 387 shares of common stock were acquired in July 2022, 11 shares of common stock were acquired in August 2022, and 13 shares of common stock were acquired in September 2022 on the open market related to the deferral of compensation by certain eligible members of Woodward’s management who irrevocably elected to invest some or all of their deferred compensation in Woodward common stock. In addition, 282 shares of common stock were acquired in August 2022 on the open market related to the reinvestment of dividends for shares of treasury stock held for deferred compensation. Shares owned by the trust, which is a separate legal entity, are included in “Treasury stock held for deferred compensation” in the Consolidated Balance Sheets.

Item 6. Reserved

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

OVERVIEW

Woodward enhances the global quality of life and sustainability by optimizing energy use through improved efficiency and lower emissions. We are an independent designer, manufacturer, and service provider of control solutions for the aerospace and industrial markets. We design, produce and service reliable, efficient, low-emission, and high-performance energy control products for diverse applications in challenging environments. We have production and assembly facilities primarily in the United States, Europe and Asia, and promote our products and services through our worldwide locations.

Our strategic focus is providing energy control and optimization solutions for the aerospace and industrial markets. The precise and efficient control of energy, including motion, fluid, combustion and electrical energy, is a growing requirement in the markets we serve, and we have developed and are executing on strategies to leverage the macro trends of eliminating greenhouse gases, commercializing space, and accelerating the digital age. To facilitate a cleaner, decarbonized world, we are partnering with our customers to enable their equipment to be more efficient, capable of utilizing clean burning fuels, advancing fuel cells, and the integration of renewable power in both commercial and defense operations. Our core technologies leverage well across our markets and customer applications, enabling us to develop and integrate cost-effective and state-of-the-art fuel, combustion, fluid, actuation and electronic systems. We focus primarily on serving OEMs and equipment packagers, partnering with them to bring superior component and system solutions to their demanding applications. We also provide aftermarket repair, maintenance, replacement and other service support for our installed products.

Our components and integrated systems optimize performance of commercial aircraft, defense aircraft, military ground vehicles and other equipment, gas and steam turbines, industrial diesel, gas, bio-diesel and dual-fuel reciprocating engines, and electrical power systems. Our innovative motion, fluid, combustion and electrical energy control systems help our customers offer more cost-effective, cleaner, and more reliable equipment.

Management's discussion and analysis should be read together with the Consolidated Financial Statements and Notes included in this report. Dollar and number of share amounts contained in this discussion and elsewhere in this Annual Report on Form 10-K are in thousands, except per share amounts.

Global Business Conditions

We continue to monitor a variety of external issues impacting our business, including ongoing global supply chain and labor disruptions, rising labor and material inflation, and unfavorable foreign currency exchange rates which together have led to a challenging industry-wide operating environment.

During fiscal year 2022, we continued to see recovery across our end markets with the exception of China. Our financial performance was adversely impacted by ongoing global supply chain and labor disruptions, rising labor and material inflation, and unfavorable foreign currency exchange rates. We are actively implementing strategies to mitigate our supply chain risk to better position us for future success. We also continue to assess the environment and are taking appropriate price actions in response to rising costs; however, the timing of many price increases can be delayed due to certain pre-existing contractual arrangements. We remain focused on operational excellence initiatives, talent development and innovation to help drive the company forward and create value for our shareholders. We are unable to predict the full extent to which these issues will continue to adversely impact our business, including our operational performance, results of operations, cash flows, financial position, and the achievement of our strategic objectives. Such uncertainty may affect our ability to accurately predict our future performance and financial results.

We continue to actively monitor the situation and may take further actions to alter our business operations if we determine such actions are in the best interests of our stockholders, employees, customers, communities, business partners, and suppliers. It is not currently clear what the potential effects of any such alterations or modifications may have on our business in future periods, including the effects on our customers, employees and prospects, or on our financial results.

The Russia-Ukraine Conflict

In February 2022, in response to the military conflict between Russia and Ukraine, the United States, other North Atlantic Treaty Organization ("NATO") members, and certain non-member countries announced targeted economic sanctions on Russia and Russian enterprises. The continuation of the conflict may trigger additional economic and other sanctions enacted by the United States, other NATO member states, and other countries. Sales to Russia were less than 1% of our total sales during fiscal years 2022, 2021, and 2020, respectively. While the impact of any additional bans, sanction

programs, and boycotts is uncertain at the current time due to the fluid nature of the military conflict as it continues to unfold, the impacts of the conflict have included and could continue to include supply chain and logistics disruptions, volatility in foreign exchange rates and interest rates, inflationary pressures on raw materials and energy, heightened cybersecurity threats, and other potential impacts.

PM Control Acquisition

On August 2, 2022, we entered into a series of Purchase Agreements with one of our Asia pacific channel partners, PM Control PLC (the “PM Agreements”). Pursuant to the PM Agreements, we agreed to acquire business assets and shares of stock of PM Control PLC and its affiliates (collectively “PM Control”), for a total consideration (excluding cash acquired from the acquisition and including the settlement of pre-existing relationships) of \$22,299 (the “PM Acquisition”). The PM Acquisition closed on the end of business day August 31, 2022 (the “PM Closing”) and PM Control became a wholly owned subsidiary of the Company.

Financial information for PM Control is reflected in our financial statements from the date of the PM Closing. The comparison of results for fiscal year 2022 to fiscal years 2021 and 2020 will not be affected, as the amounts included in our financial statements for fiscal year 2022 are immaterial.

BUSINESS ENVIRONMENT AND TRENDS

We serve the aerospace and industrial markets.

Aerospace Markets

Our aerospace products and systems are primarily used to provide propulsion, actuation and motion control in both commercial and defense fixed-wing aircraft, rotorcraft, guided weapons, and other defense systems.

Commercial and Civil Aircraft – In the commercial aerospace markets, global air traffic continued to recover and grow in fiscal year 2022, though it remains below the historically high levels of pre-pandemic years. Commercial aircraft production has slowly increased, as aircraft OEMs continued to ramp from post-COVID production levels. We expect commercial aircraft production to continue to increase and to exceed pre-COVID production levels in the coming years. Aircraft operators are taking delivery of next generation aircraft models to meet the growing demand for passenger air travel, the need to replace aging aircraft, and the demand for more fuel efficient and lower emission aircraft. The trend toward the newer generation of aircraft that have recently entered service or are scheduled to go into production over the next several years favors our product offerings because we have more content on those aircraft. We expect production levels to continue to grow due to solid OEM order backlogs for the new aircraft models and pent-up demand. Demand in the business and general aviation market improved in fiscal year 2022 as business jet deliveries were up because of the introduction of some new models, reduced availability of used aircraft, and improving corporate profitability. Turboprop and helicopter deliveries also improved in fiscal year 2022 in part due to increasing oil prices and overall financial market improvements. We expect business jet, turboprop and helicopter deliveries to further improve in fiscal year 2023 as aircraft operations continue to recover.

We have content on the Airbus A220, A320neo, and A330neo, Bell 429, Boeing 737 MAX, 777, 787, and 747-8. We have been awarded content on the 777-9, the Comac C919, and a variety of business jet platforms, among others. We continue to explore opportunities on new engine and aircraft programs that are under consideration or have been recently announced.

The Boeing 737 MAX has returned to service in every jurisdiction except China. As the aircraft’s return to service progresses, we anticipate a large majority of the deliveries missed in fiscal year 2019 through 2022 will be fulfilled in future periods, although at a slower rate than previously estimated. The continuing return to service of the 737 MAX aircraft in many jurisdictions contributed to positive impacts on OEM sales, and initial provisioning sales related to the 737 MAX aircraft and CFM LEAP engine have begun to come through. We anticipate further recovery of OEM 737 MAX sales in fiscal year 2023.

Defense – In recent years, the defense industry has been strong as budgetary allocations have generally increased since 2016. The conflict in Ukraine and its influence on European defense postures are pressuring global defense budgets upward. The U.S. National Defense Authorization Act for fiscal year 2022 resulted in higher levels of funding for both procurement and research and development, and we believe budget increases in recent years will support growth in fiscal year 2023, with the exception of our guided tactical weapons programs. Our involvement with a wide variety of defense programs in fixed-wing aircraft, rotorcraft and weapons systems has provided relative stability for our defense market sales, as some newer programs increase (e.g., F-35 Lightning II, KC-46A Tanker, and T-7A Trainer), some legacy programs are

decreased (e.g., F/A-18 E/F Super Hornet and V-22 Osprey). Other programs are relatively steady (e.g., UH-60 Black Hawk and A-64 Apache helicopter programs) and some legacy programs, such as the F-15, will maintain or potentially increase production. Weapons programs for which we have significant sales include the Joint Direct Attack Munition (“JDAM”), Small Diameter Bomb (“SDB”) and AIM-9X guided tactical weapon systems. We expect overall production rates to decrease for some of these weapons programs due to anticipated decline in demand, compared to the very strong production rates in recent years.

Aftermarket – Our commercial aftermarket business has increased in fiscal year 2022, as global air traffic continued to recover and grow from its pandemic lows in fiscal year 2020, and because our products have been selected for new aerospace platforms and our content has increased across existing platforms. With the entry into service of the new single aisle aircraft (Boeing 737 MAX and Airbus A320neo), we have seen a significant increase in initial provisioning sales to the operators of these new aircraft. As new aircraft production levels increase to accommodate rising passenger demand and to mitigate higher operating costs driven largely by higher fuel costs on older and less fuel-efficient aircraft, we expect airlines will retire older generation aircraft as they reach certain age thresholds (typically around twenty-five years on average). However, in the past few years, aircraft retirements have decreased because passenger demand has outpaced deliveries of next generation aircraft, forcing older generation legacy aircraft to remain in service longer than anticipated. This has led to increased demand—for repairs and spare parts for older engine programs remaining in service—consistent with air traffic recovery from the post-COVID-19 low levels. This dynamic applies to commercial aftermarket related to repairs and spare parts for mature legacy programs with large in-service fleets, such as the Airbus A320 and the Boeing 777.

Our defense aftermarket was down during fiscal year 2022 due to global supply chain and labor disruptions. Global conflicts and growing international demand for various other military programs continue to drive demand for operations of defense aircraft, including fighter jets, transports and both utility and attack rotorcraft, which are all supported by our products and systems. Although we expect variability, which is generally attributable to the cycling of various maintenance and upgrade programs, as well as actual usage, our outlook for the defense aftermarket is strong. This is due primarily to growing fleets, the service lives of existing military programs being extended and increased demand for repairs and spare parts for older military aircraft programs remaining in service.

Space – Many new space launches and mission equipment opportunities are being driven by commercial space launch and satellite providers, who are rapidly increasing their investment and participation in these markets.

Industrial Markets

Our industrial products are used worldwide in various types of turbine and reciprocating engine-powered equipment, including electric power generation and distribution systems, ships, locomotives, compressors, pumps, and other mobile and industrial machines.

Industrial Turbines – The demand for industrial gas turbines for power generation, which consists mainly of heavy frames, aero derivatives, and steam, increased in fiscal year 2022 due to increased new unit build rates and high utilization of the in-service fleet driving the current and future marine aftermarket activity, and strong demand for power generation and process industries, particularly in Asia. Start reliability, fuel flexibility, safety, and part-load efficiency are all key drivers of the turbine market as the conversion from coal to natural gas usage continues, and we believe Woodward continues to be well positioned to meet these market needs on the existing and next generation turbines. We project continued growth as demand for electricity is met through a balance of renewable power sources and newer industrial gas turbines for which Woodward has been awarded increased content.

Reciprocating Engines – Woodward’s key markets for industrial engine control technologies and fuel system equipment are power generation, transportation (including compressed natural gas and liquified natural gas trucks in Asia, mining, and marine shipping), and oil and gas. Due to higher gas prices and global supply chain and labor disruptions, powerplant operations have transitioned to higher liquid fuel use, thereby increasing the demand for our products. The demand from internet traffic and data storage is driving demand for data center power generation. While demand growth for reciprocating engines in fiscal year 2022 was supported by aftermarket demand and investment into new highspeed equipment, we anticipate strong demand in fiscal year 2023 for new highspeed engines and new marine engines. We expect market share gains by our customers and increased scope on the next generation reciprocating engines as energy policies in some countries encourage the use of compressed natural gas, liquefied natural gas, and other alternative fuels over carbon-rich petroleum fuels, which we expect will drive increased demand for our alternative fuel clean engine control technologies.

RESULTS OF OPERATIONS

Financial Highlights

	Year Ended September 30,	
	2022	2021
Net sales:		
Aerospace segment	\$ 1,519,322	\$ 1,404,117
Industrial segment	863,468	841,715
Consolidated net sales	<u>\$ 2,382,790</u>	<u>\$ 2,245,832</u>
Earnings:		
Aerospace segment	\$ 230,933	\$ 234,356
Segment earnings as a percent of segment net sales	15.2%	16.7%
Industrial segment	\$ 82,788	\$ 108,672
Segment earnings as a percent of segment net sales	9.6%	12.9%
Consolidated net earnings	\$ 171,698	\$ 208,649
Adjusted net earnings	\$ 173,823	\$ 212,385
Effective tax rate		14.1% 15.1%
Adjusted effective tax rate		14.3% 15.3%
Consolidated diluted earnings per share	\$ 2.71	\$ 3.18
Consolidated adjusted diluted earnings per share	\$ 2.75	\$ 3.24
Earnings before interest and taxes ("EBIT")	\$ 232,629	\$ 278,586
Adjusted EBIT	\$ 235,463	\$ 283,594
Earnings before interest, taxes, depreciation, and amortization ("EBITDA")	\$ 353,257	\$ 408,110
Adjusted EBITDA	\$ 356,091	\$ 413,118

Adjusted net earnings, adjusted earnings per share, adjusted effective tax rate, EBIT, adjusted EBIT, EBITDA, and adjusted EBITDA are non-U.S. GAAP financial measures. A description of these measures as well as a reconciliation of these non-U.S. GAAP financial measures to the closest U.S. GAAP financial measures can be found under the caption "Non-U.S. GAAP Measures" in this Item 7 – Management's Discussion and Analysis of Financial Conditions and Results of Operations.

Liquidity Highlights

Net cash provided by operating activities for fiscal year 2022 was \$193,638, compared to \$464,669 for fiscal year 2021. The decrease in net cash provided by operating activities in fiscal year 2022 compared to fiscal year 2021 is primarily attributable to production delays from global supply chain disruptions as well as increases in working capital (excluding cash) to support the growth we anticipate in the next fiscal year.

For fiscal year 2022, free cash flow, which we define as net cash flows from operating activities less payments for property, plant and equipment, was \$140,770, compared to \$426,980 for fiscal year 2021. Adjusted free cash flow, which we define as free cash flow, plus the payments for costs related to business development activities and restructuring activities, was \$144,257. No adjustments were made to free cash flow for fiscal year 2021. The decrease in free cash flow for fiscal year 2022 as compared to the prior fiscal year was primarily due to production delays from supply chain disruptions as well as increases in working capital (excluding cash) to support the growth we anticipate in the next fiscal year, higher payments for property, plant and equipment and lower earnings. Free cash flow and adjusted free cash flow are non-U.S. GAAP financial measures. A description of these measures as well as a reconciliation of these non-U.S. GAAP financial measures to the closest U.S. GAAP financial measures can be found under the caption "Non-U.S. GAAP Measures" in this Item 2 – Management's Discussion and Analysis of Financial Conditions and Results of Operations.

At September 30, 2022, we held \$107,844 in cash and cash equivalents and had total outstanding debt of \$777,416 with additional borrowing availability of \$923,506, net of outstanding letters of credit, under our revolving credit agreement. At September 30, 2022, we also had additional borrowing capacity of \$27,266 under various foreign lines of credit and foreign overdraft facilities.

Consolidated Statements of Earnings and Other Selected Financial Data

The following table sets forth consolidated statements of earnings data as a percentage of net sales for each period indicated:

	Year Ended September 30,				
	2022		2021		% of Net Sales
	\$	100%	\$	100%	
Net sales	\$ 2,382,790	100%	\$ 2,245,832	100%	
Costs and expenses:					
Cost of goods sold	1,857,485	78.0	1,694,774	75.5	
Selling, general, and administrative expenses	203,005	8.5	186,866	8.3	
Research and development costs	119,782	5.0	117,091	5.2	
Restructuring charges	(3,420)	(0.1)	5,008	0.2	
Interest expense	34,545	1.4	34,282	1.5	
Interest income	(1,814)	(0.1)	(1,495)	(0.1)	
Other expense (income), net	(26,691)	(1.1)	(36,493)	(1.6)	
Total costs and expenses	2,182,892	91.6	2,000,033	89.1	
Earnings before income taxes	199,898	8.4	245,799	10.9	
Income tax expense	28,200	1.2	37,150	1.7	
Net earnings	\$ 171,698	7.2	\$ 208,649	9.3	

Other select financial data:

	September 30, 2022	September 30, 2021
Working capital	\$ 772,856	\$ 1,098,466
Total debt	777,416	734,122
Total stockholders' equity	1,901,122	2,214,781

2022 RESULTS OF OPERATIONS

2022 Net Sales Compared to 2021

Consolidated net sales for fiscal year 2022 increased by \$136,958, or 6.1%, compared to fiscal year 2021.

Details of the changes in consolidated net sales are as follows:

Consolidated net sales for the year ended September 30, 2021	\$ 2,245,832
Aerospace volume	65,302
Industrial volume	64,007
Noncash consideration	(5,816)
Effects of changes in price and sales mix	67,683
Effects of changes in foreign currency rates	(54,218)
Consolidated net sales for the year ended September 30, 2022	\$ 2,382,790

The increase in consolidated net sales for fiscal year 2022 compared to the prior fiscal year is primarily due to an increase in Aerospace sales volume, the impact of price increases, as well as increases in Industrial volume, partially offset by unfavorable foreign currency impacts.

In the Aerospace segment, the increase in net sales for fiscal year 2022 as compared to fiscal year 2021 was primarily attributable to a significant increase in commercial OEM and aftermarket sales driven by higher OEM aircraft production rates and increasing aircraft utilization, partially offset by lower defense aftermarket sales primarily driven by global supply chain and labor disruptions. As of September 30, 2022, Aerospace segment net sales were negatively impacted by approximately \$40 million due to ongoing global supply chain and labor disruptions.

In the Industrial segment, the increase in net sales for fiscal year 2022 as compared to fiscal year 2021 was primarily attributable to higher industrial turbomachinery sales supporting increasing demand for power generation and process industries as well as higher marine sales driven by increased utilization of the in-service fleet, partially offset by weakness in natural gas engines in China and by unfavorable foreign currency impacts. Industrial segment net sales were negatively impacted by approximately \$45 million due to ongoing global supply chain and labor disruptions.

2022 Costs and Expenses Compared to 2021

Cost of goods sold increased by \$162,711 to \$1,857,485, or 78.0% of net sales, for fiscal year 2022, from \$1,694,774, or 75.5% of net sales, for fiscal year 2021. The increase in cost of goods sold in fiscal year 2022, as compared to the same period of the prior year is primarily attributable to net inflationary impacts on material and labor costs, as well as increases in manufacturing costs related to global supply chain and labor disruptions.

Gross margin (as measured by net sales less cost of goods sold, divided by net sales) was 22.0% for fiscal year 2022, compared to 24.5% for fiscal year 2021. The decrease in gross margin for fiscal year 2021 is primarily attributable to net inflationary impacts on material and labor costs, increases in manufacturing costs related to global supply chain disruptions and inefficiencies related to training new members.

Selling, general and administrative expenses increased by \$16,139, or 8.6%, to \$203,005 for fiscal year 2022, compared to \$186,866 for fiscal year 2021. Selling, general, and administrative expenses as a percentage of net sales increased to 8.5% for fiscal year 2022, compared to 8.3% for fiscal year 2021. The increase in selling, general and administrative expenses, both in dollars and as a percentage of sales, for fiscal year 2022 compared to the prior year is primarily due to the incurrence of a certain expense in fiscal year 2022 in connection with a non-recurring matter unrelated to the ongoing operations of the business, as well as certain business development activities, which in each case did not occur in the prior fiscal year period.

Research and development costs increased by \$2,691, or 2.3%, to \$119,782 for fiscal year 2022, as compared to \$117,091 for fiscal year 2021. Research and development costs as a percentage of net sales decreased to 5.0% for fiscal year 2022, as compared to 5.2% for fiscal year 2021. The increase in research and development costs in dollars for fiscal year 2022 as compared to the prior year is primarily due to variability in the timing of projects and expenses. The decrease in research and development costs as a percentage of net sales for fiscal year 2022 as compared to the prior year is primarily due to net sales increases in fiscal year 2022 compared to fiscal year 2021. Our research and development activities extend across almost all of our customer base, and we anticipate ongoing variability in research and development due to the timing of customer business needs on current and future programs.

Restructuring activities decreased by \$8,428, to a benefit of \$3,420 for fiscal year 2022, compared to charges of \$5,008 for fiscal year 2021. The decrease in restructuring activities is primarily attributable to a new organizational structure and leadership change approved during fiscal year 2022. In fiscal year 2022, due to changes in business conditions including plans to insource work from suppliers and to manage workforce levels through attrition, the remaining unpaid accrued amount of \$4,503 is no longer needed and therefore reversed.

Interest expense increased by \$263, or 0.8%, to \$34,545, for fiscal year 2022, compared to \$34,282 for fiscal year 2021. Interest expense decreased as a percentage of net sales at 1.4% for fiscal year 2022, as compared to 1.5% for fiscal year 2021. Interest expense increased for fiscal year 2022 as compared to fiscal year 2021 primarily due to increased borrowings on our revolving credit agreement, partially offset by reduced long-term debt balances. In fiscal year 2021, we paid the entire balance of two series of private placement notes totaling \$100,000, primarily using cash from operations and borrowings from our revolving credit facility. In fiscal year 2022, we had outstanding balances on our revolving credit facility whereas in fiscal year 2021 we had no borrowings.

Other income, net was \$26,691 for fiscal year 2022, compared to \$36,493 for fiscal year 2021. The decrease in other income in fiscal year 2022 compared to fiscal year 2021 was primarily due to a loss on investments in our deferred compensation program, whereas a gain on investments was recognized in the prior fiscal year.

Income taxes were provided at an effective rate on earnings before income taxes of 14.1% for fiscal year 2022, compared to 15.1% for fiscal year 2021.

The decrease in the effective tax rate for fiscal year 2022 compared to fiscal year 2021 is primarily attributable to a partial release of valuation allowance related to state credits and increased Research and Development Credit in the current fiscal year when compared to the prior fiscal year. This decrease was partially offset by a reduced stock-based compensation tax benefit in the current fiscal year when compared to the prior fiscal year.

Segment Results

The following table presents sales by segment:

	Year Ended September 30,			
	2022		2021	
Net sales:				
Aerospace	\$ 1,519,322	63.8%	\$ 1,404,117	62.5%
Industrial	863,468	36.2%	841,715	37.5%
Consolidated net sales	<u>\$ 2,382,790</u>	<u>100%</u>	<u>\$ 2,245,832</u>	<u>100%</u>

The following table presents earnings by segment and reconciles segment earnings to consolidated net earnings:

	Year Ended September 30,	
	2022	2021
Aerospace	\$ 230,933	\$ 234,356
Industrial	82,788	108,672
Nonsegment expenses	(81,092)	(64,442)
Interest expense, net	(32,731)	(32,787)
Consolidated earnings before income taxes	199,898	245,799
Income tax expense	28,200	37,150
Consolidated net earnings	<u>\$ 171,698</u>	<u>\$ 208,649</u>

The following table presents segment earnings as a percent of segment net sales:

	Year Ended September 30,	
	2022	2021
Aerospace	15.2%	16.7%
Industrial	9.6%	12.9%

2022 Segment Results Compared to 2021

Aerospace

Aerospace segment net sales increased by \$115,205, or 8.2% to \$1,519,322 for fiscal year 2022, compared to \$1,404,117 for fiscal year 2021. Segment net sales increased for fiscal year 2022 as compared to fiscal year 2021 primarily due to significantly higher commercial OEM and aftermarket sales due to higher OEM aircraft production rates, continued recovery in passenger traffic, and increasing aircraft utilization. The increase in aerospace segment sales was partially offset by lower defense OEM and aftermarket sales, driven primarily by lower sales for guided weapons and global supply chain and labor disruptions.

As of September 30, 2022, Aerospace segment net sales were negatively impacted by approximately \$40 million due to global supply chain and labor disruptions.

Aerospace segment earnings decreased by \$3,423, or 1.5%, to \$230,933 for fiscal year 2022, compared to \$234,356 for fiscal year 2021.

The net decrease in Aerospace segment earnings for fiscal year 2022 was due to the following:

Earnings for the period ended September 30, 2021	\$ 234,356
Sales volume	36,867
Price, sales mix and productivity	(17,491)
Manufacturing costs related to hiring and training	(20,772)
Annual variable incentive compensation costs	(6,809)
Other, net	4,782
Earnings for the period ended September 30, 2022	<u>\$ 230,933</u>

The decrease in Aerospace segment earnings for fiscal year 2022 compared to fiscal year 2021 was primarily due to net inflationary impacts, as well as increases in manufacturing costs related to global supply chain disruptions and inefficiencies related to hiring and training, partially offset by higher commercial OEM and aftermarket sales volume. Aerospace segment earnings as a percentage of segment net sales were 15.2% for fiscal year 2022 and 16.7% for fiscal year 2021.

Industrial

Industrial segment net sales increased by \$21,753, or 2.6%, to \$863,468 for fiscal year 2022, compared to \$841,715 for fiscal year 2021. Foreign currency exchange rates had a negative impact on segment net sales of \$50,767 for fiscal year 2022.

The increase in Industrial segment net sales in fiscal year 2022 as compared to fiscal year 2021 was primarily attributable to increased industrial turbomachinery sales supporting increasing demand for power generation and process industries as well as higher marine sales driven by increased utilization of the in-service fleet, partially offset by lower sales of natural gas-powered engines in China and unfavorable foreign currency exchange rates.

As of September 30, 2022, Industrial segment net sales were negatively impacted by approximately \$45 million due to global supply chain and labor disruptions.

Industrial segment earnings decreased by \$25,884, or 23.8%, to \$82,788 for fiscal year 2022, compared to \$108,672 for fiscal year 2021.

The net decrease in Industrial segment earnings for fiscal year 2022 was due to the following:

Earnings for the period ended September 30, 2021	\$ 108,672
Sales volume	29,229
Price, sales mix and productivity	(24,222)
Manufacturing costs related to hiring and training	(19,400)
Effects of changes in foreign currency rates	(8,809)
Annual variable incentive compensation costs	(3,762)
Other, net	1,080
Earnings for the period ended September 30, 2022	<u>\$ 82,788</u>

The decrease in Industrial segment earnings for fiscal year 2022 as compared to fiscal year 2021 was primarily due to net inflationary impacts, increases in manufacturing costs related to global supply chain disruptions and inefficiencies related to hiring and training, as well as unfavorable foreign currency impacts. Industrial segment earnings as a percentage of segment net sales were 9.6% for fiscal year 2022, compared to 12.9% for fiscal year 2021.

Nonsegment

Nonsegment expenses increased to \$81,092 for fiscal year 2022, compared to \$64,442 for fiscal year 2021. The increase in nonsegment expenses for fiscal year 2022 compared to fiscal year 2021 was primarily a result of a non-recurring matter unrelated to the ongoing operations of the business and certain business development activities, neither of which occurred in fiscal year 2021, as well as the timing of certain expenses and the return of annual variable incentive compensation costs.

For a discussion of the 2021 Results of Operations, including a discussion of the financial results for the fiscal year ended September 30, 2021 compared to the fiscal year ended September 30, 2020, refer to Part I, Item 7 of our Form 10-K filed with the SEC on November 19, 2021.

LIQUIDITY AND CAPITAL RESOURCES

Historically, we have satisfied our working capital needs, as well as capital expenditures, product development and other liquidity requirements associated with our operations, with cash flow provided by operating activities and borrowings under our credit facilities. We have also issued debt to supplement our cash needs, repay our other indebtedness, or finance our acquisitions. We expect that cash generated from our operating activities, together with borrowings under our revolving credit facility and other borrowing capacity, will be sufficient to fund our continuing operating needs for the next 12 months and the foreseeable future.

Our aggregate cash and cash equivalents were \$107,844 at September 30, 2022 and \$448,462 at September 30, 2021, and our working capital was \$772,856 at September 30, 2022 and \$1,098,466 at September 30, 2021. Of the cash and cash equivalents held at September 30, 2022, \$87,639 was held by our foreign locations. We are not presently aware of any significant restrictions on the repatriation of these funds, although a portion is considered indefinitely reinvested in certain foreign subsidiaries. If these funds were needed to fund our operations or satisfy obligations in the United States, then they could be repatriated and their repatriation into the United States may cause us to incur additional U.S. income taxes or foreign withholding taxes. Any additional U.S. taxes could be offset, in part or in whole, by foreign tax credits. The amount of such taxes and application of tax credits would be dependent on the income tax laws and other circumstances at the time these amounts are repatriated. Based on these variables, it is impractical to determine the income tax liability that might be incurred if these funds were to be repatriated.

Our revolving credit facility, as amended, provides a borrowing capacity of up to \$1,000,000 with the option to increase total available borrowings to up to \$1,500,000, subject to lenders' participation. We can borrow against our revolving credit facility as long as we are in compliance with all of our debt covenants. Borrowings under the revolving credit facility can be made in U.S. dollars or in foreign currencies other than the U.S. dollar provided that the U.S. dollar equivalent of any foreign currency borrowings and U.S. dollar borrowings does not, in total, exceed the borrowing capacity of the revolving credit facility. Historically, we have used borrowings under our revolving credit facilities to meet certain short-term working capital needs, as well as for strategic uses, including repurchases of our common stock, payments of dividends, acquisitions, and facility expansions.

In addition to our revolving credit facility, we have various foreign credit facilities, some of which are tied to net amounts on deposit at certain foreign financial institutions. These foreign credit facilities are reviewed annually for renewal. We use borrowings under these foreign credit facilities to finance certain local operations on a periodic basis. For further discussion of our revolving credit facility and our other credit facilities, see Note 15, *Credit facilities, short-term borrowings and long-term debt* in the Notes to the Consolidated Financial Statements in Part II, Item 8 of this Form 10-K.

At September 30, 2022, we had total outstanding debt of \$777,416 consisting of various series of unsecured notes due between 2023 and 2033, and amounts borrowed under our revolving credit facility, and our finance leases. On November 15, 2020, we paid the entire principal balance of \$100,000 on our Series G and J Notes using primarily free cash flow and proceeds from borrowings under our existing revolving credit facility. At September 30, 2022, we had additional borrowing availability of \$923,506 under our revolving credit facility, net of outstanding letters of credit, and additional borrowing availability of \$27,266 under various foreign credit facilities.

At September 30, 2022, we had \$66,800 outstanding on our revolving credit facility, all of which is classified as short-term borrowings based on our intent and ability to pay this amount in the next twelve months. Revolving credit facility and short-term borrowing activity during the fiscal year ended September 30, 2022 were as follows:

Maximum daily balance during the period	\$ 264,500
Average daily balance during the period	\$ 86,795
Weighted average interest rate on average daily balance	2.88%

We believe we were in compliance with all our debt covenants as of September 30, 2022. See Note 15, *Credit facilities, short-term borrowings and long-term debt* in the Notes to the Consolidated Financial Statements in "Item 8 – Financial Statements and Supplemental Data," for more information about our covenants.

In addition to utilizing our cash resources to fund the working capital needs of our business, we evaluate additional strategic uses of our funds, including the repurchase of our common stock, payment of dividends, significant capital expenditures, consideration of strategic acquisitions and other potential uses of cash.

Our ability to service our long-term debt, to remain in compliance with the various restrictions and covenants contained in our debt agreements, and to fund working capital, capital expenditures and product development efforts will depend on our ability to generate cash from operating activities, which in turn is subject to, among other things, future operating performance as well as general economic, financial, competitive, legislative, regulatory, and other conditions, some of which may be beyond our control.

We believe that cash flows from operations, along with our contractually committed borrowings and other borrowing capability, will continue to be sufficient to fund anticipated capital spending requirements and our operations for the foreseeable future. However, we could be adversely affected if the financial institutions providing our capital requirements refuse to honor their contractual commitments, cease lending, or declare bankruptcy. We believe the lending institutions participating in our credit arrangements are financially stable.

Cash Flows

	Year Ended September 30,	
	2022	2021
Net cash provided by operating activities	\$ 193,638	\$ 464,669
Net cash used in investing activities	(65,449)	(35,297)
Net cash used in financing activities	(442,378)	(136,318)
Effect of exchange rate changes on cash and cash equivalents	(26,429)	2,138
Net change in cash and cash equivalents	(340,618)	295,192
Cash and cash equivalents, including restricted cash, at beginning of year	448,462	153,270
Cash and cash equivalents, including restricted cash, at end of year	\$ 107,844	\$ 448,462

2022 Cash Flows Compared to 2021

Net cash flows provided by operating activities for fiscal year 2022 was \$193,638, compared to \$464,669 for fiscal year 2021. The decrease in net cash provided by operating activities in fiscal year 2022 compared to fiscal year 2021 is primarily attributable to production delays from global supply chain disruptions leading to increases in working capital (excluding cash) to support anticipated growth in the next fiscal year, and the timing of cash payments to suppliers.

Net cash flows used in investing activities for fiscal year 2022 was \$65,449, compared to \$35,297 in fiscal year 2021. The increase in cash used in investing activities in fiscal year 2022 compared to fiscal year 2021 is primarily due to the purchase of PM Control as well as increased payments for property, plant and equipment, partially offset by certain proceeds received in the third quarter of fiscal year 2022 in connection with the sale of the renewable power systems business and other related businesses.

Net cash flows used in financing activities for fiscal year 2022 was \$442,378, compared to net cash flows used in financing activities of \$136,318 in fiscal year 2021. The increase in net cash flows used in financing activities in fiscal year 2022 compared to fiscal year 2021 was attributable to repurchases of common stock, partially offset by the change in net debt payments. During fiscal year 2022, we made \$485,300 of cash repurchases of common stock, compared to \$33,344 of cash repurchases of common stock during fiscal year 2021. During fiscal year 2022, we had net debt payments in the amount of \$66,003, compared to net debt payments in the amount of \$101,639 in fiscal year 2021.

New Accounting Standards

From time to time, the FASB or other standards-setting bodies issue new accounting pronouncements. Updates to the FASB Accounting Standards Codification are communicated through issuance of an Accounting Standards Update.

To understand the impact of recently issued guidance, whether adopted or to be adopted, please review the information provided in Note 2, *New accounting standards*, in the Notes to the Consolidated Financial Statements included in “Item 8 – Financial Statements and Supplementary Data.” Unless otherwise discussed, we believe that the impact of recently issued guidance, whether adopted or to be adopted in the future, is not expected to have a material impact on our Consolidated Financial Statements upon adoption.

Non-U.S. GAAP Financial Measures

Adjusted net earnings, adjusted earnings per share, adjusted effective tax rate, EBIT, adjusted EBIT, EBITDA, adjusted EBITDA, free cash flow, and adjusted free cash flow are financial measures not prepared and presented in accordance with U.S. GAAP. However, we believe these non-U.S. GAAP financial measures provide additional information that enables readers to evaluate our business from the perspective of management.

Earnings based non-U.S. GAAP financial measures

Adjusted net earnings is defined by the Company as net earnings excluding, as applicable, (i) a charge in connection with a non-recurring matter unrelated to the ongoing operations of the business, (ii) costs related to business development activities, and (iii) restructuring activities. The Company believes that these excluded items are short-term in nature, not directly related to the ongoing operations of the business and therefore, the exclusion of them illustrates more clearly how the underlying business of Woodward is performing. Management uses adjusted net earnings to evaluate the Company’s performance excluding these infrequent or unusual period expenses that are not necessarily indicative of the Company’s operating performance for the period. Management defines adjusted earnings per share as adjusted net earnings, as defined above, divided by the weighted-average number of diluted shares of common stock outstanding for the period.

Management uses both adjusted net earnings and adjusted earnings per share when comparing operating performance to other periods which may not have similar infrequent or unusual charges.

The reconciliation of net earnings and earnings per share to adjusted net earnings and adjusted earnings per share, respectively, for the fiscal years ended and are shown in the tables below.

	Year Ended September 30,			
	2022		2021	
	Net Earnings	Earnings Per Share	Net Earnings	Earnings Per Share
Net earnings (U.S. GAAP)	\$ 171,698	\$ 2.71	\$ 208,649	\$ 3.18
Non-U.S. GAAP adjustments:				
Non-recurring matter unrelated to the ongoing operations of the business, net of tax	2,454	0.04	—	—
Business development activities, net of tax	2,236	0.04	—	—
Restructuring activities, net of tax	(2,565)	(0.04)	3,736	0.06
Total non-U.S. GAAP adjustments	2,125	0.04	3,736	0.06
Adjusted net earnings (Non-U.S. GAAP)	<u><u>\$ 173,823</u></u>	<u><u>\$ 2.75</u></u>	<u><u>\$ 212,385</u></u>	<u><u>\$ 3.24</u></u>

Management uses EBIT to evaluate Woodward's performance without financing and tax related considerations, as these elements may not fluctuate with operating results. Management uses EBITDA in evaluating Woodward's operating performance, making business decisions, including developing budgets, managing expenditures, forecasting future periods, and evaluating capital structure impacts of various strategic scenarios. Securities analysts, investors and others frequently use EBIT and EBITDA in their evaluation of companies, particularly those with significant property, plant, and equipment, and intangible assets subject to amortization. The Company believes that EBIT and EBITDA are useful measures to the investor when measuring operating performance as they eliminate the impact of financing and tax expenses, which are non-operating expenses and may be driven by factors outside of our operations, such as changes in tax laws or regulations, and, in the case of EBITDA, the noncash charges associated with depreciation and amortization. Further, as interest from financing, income taxes, depreciation and amortization can vary dramatically between companies and between periods, management believes that the removal of these items can improve comparability.

Adjusted EBIT and adjusted EBITDA represent further non-U.S. GAAP adjustments to EBIT and EBITDA, in each case adjusted to exclude, as applicable, (i) a charge in connection with a non-recurring matter unrelated to the ongoing operations of the business, (ii) costs related to business development activities, and (iii) restructuring activities. As these charges are infrequent or unusual items that can be variable from period to period and do not fluctuate with operating results, management believes that by removing these gains and charges from EBIT and EBITDA it improves comparability of past, present and future operating results and provides consistency when comparing EBIT and EBITDA between periods.

EBIT and adjusted EBIT reconciled to net earnings were as follows:

	Year Ended September 30,	
	2022	2021
Net earnings (U.S. GAAP)	\$ 171,698	\$ 208,649
Income tax expense	28,200	37,150
Interest expense	34,545	34,282
Interest income	(1,814)	(1,495)
EBIT (Non-U.S. GAAP)	<u><u>232,629</u></u>	<u><u>278,586</u></u>
Non-U.S. GAAP adjustments:		
Non-recurring matter unrelated to the ongoing operations of the business	3,272	—
Business development activities	2,982	—
Restructuring activities	(3,420)	5,008
Total non-U.S. GAAP adjustments	2,834	5,008
Adjusted EBIT (Non-U.S. GAAP)	<u><u>\$ 235,463</u></u>	<u><u>\$ 283,594</u></u>

EBITDA and adjusted EBITDA reconciled to net earnings were as follows:

	Year Ended September 30,	
	2022	2021
Net earnings (U.S. GAAP)	\$ 171,698	\$ 208,649
Income tax expense	28,200	37,150
Interest expense	34,545	34,282
Interest income	(1,814)	(1,495)
Amortization of intangible assets	37,609	41,893
Depreciation expense	83,019	87,631
EBITDA (Non-U.S. GAAP)	<u>353,257</u>	<u>408,110</u>
Non-U.S. GAAP adjustments:		
Non-recurring matter unrelated to the ongoing operations of the business	3,272	—
Business development activities	2,982	—
Restructuring activities	(3,420)	5,008
Total non-U.S. GAAP adjustments	<u>2,834</u>	<u>5,008</u>
Adjusted EBITDA (Non-U.S. GAAP)	<u>\$ 356,091</u>	<u>\$ 413,118</u>

The use of these non-U.S. GAAP financial measures is not intended to be considered in isolation of, or as a substitute for, the financial information prepared and presented in accordance with U.S. GAAP. As adjusted net earnings, adjusted net earnings per share, adjusted effective tax rate, EBIT, adjusted EBIT, EBITDA, and adjusted EBITDA exclude certain financial information compared with net earnings, the most comparable U.S. GAAP financial measure, users of this financial information should consider the information that is excluded. Our calculations of adjusted net earnings, adjusted net earnings per share, EBIT, adjusted EBIT, EBITDA, and adjusted EBITDA may differ from similarly titled measures used by other companies, limiting their usefulness as comparative measures.

Cash flow-based non-U.S. GAAP financial measures

Management uses free cash flow, which is defined by the Company as net cash flows provided by operating activities less payments for property, plant and equipment, in reviewing the financial performance of and cash generation by Woodward's various business groups and evaluating cash levels. We believe free cash flow is a useful measure for investors because it portrays our ability to grow organically and generate cash from our businesses for purposes such as paying interest on our indebtedness, repaying maturing debt, funding business acquisitions, investing in research and development, purchasing our common stock, and paying dividends. In addition, securities analysts, investors, and others frequently use free cash flow in their evaluation of companies. Adjusted free cash flow represents a further non-U.S. GAAP adjustment to free cash flow to exclude the effect of cash paid for business development activities and cash paid for restructuring activities. Management believes that by excluding these infrequent or unusual items from free cash flow it better portrays our ability to generate cash, as such items are not indicative of the Company's operating performance for the period.

The use of these non-U.S. GAAP financial measures is not intended to be considered in isolation of, or as substitutes for, the financial information prepared and presented in accordance with U.S. GAAP. Free cash flow and adjusted free cash flow do not necessarily represent funds available for discretionary use and are not necessarily a measure of our ability to fund our cash needs. Our calculation of free cash flow and adjusted free cash flow may differ from similarly titled measures used by other companies, limiting their usefulness as a comparative measure.

Free cash flow and adjusted free cash flow were as follows:

	Year Ended September 30,	
	2022	2021
Net cash provided by operating activities (U.S. GAAP)	\$ 193,638	\$ 464,669
Payments for property, plant and equipment	(52,868)	(37,689)
Free cash flow (Non-U.S. GAAP)	<u>\$ 140,770</u>	<u>\$ 426,980</u>
Cash paid for business development activities	2,982	—
Cash paid for restructuring activities	505	—
Adjusted free cash flow (Non-U.S. GAAP)	<u>\$ 144,257</u>	<u>\$ 426,980</u>

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires us to make judgments, assumptions, and estimates that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. Note 1, *Operations and summary of significant accounting policies*, to the Consolidated Financial Statements describes the significant accounting policies and methods used in the preparation of the Consolidated Financial Statements. The estimates and assumptions described below are those that we consider to be most critical to an understanding of our financial statements because they involve significant judgments and uncertainties. All of these estimates reflect our best judgment about current, and for some estimates, future economic and market conditions and their effects based on information available as of the date of these financial statements. As estimates are updated or actual amounts are known, our critical accounting estimates are revised, and operating results may be affected by the revised estimates. Actual results may differ from these estimates under different assumptions or conditions.

Our management has discussed the development and selection of these critical accounting estimates with the Audit Committee of our Board of Directors, and the Audit Committee has reviewed our disclosures in this Management's Discussion and Analysis.

Revenue recognition

Revenue is recognized on contracts with customers for arrangements in which quantities and pricing are fixed and/or determinable and are generally based on customer purchase orders, often within the framework of a long-term supply arrangement with the customer. We recognize revenue for performance obligations within a customer contract when control of the associated product or service is transferred to the customer. Some of our contracts with customers contain a single performance obligation, while other contracts contain multiple performance obligations. Each product within a contract generally represents a separate performance obligation as we do not provide significant installation and integration services, the products do not customize each other, and the products can function independently of each other.

A contract's transaction price is allocated to each performance obligation and recognized as revenue when, or as, the customer obtains control of the associated product or service. When there are multiple performance obligations within a contract, we generally use the observable standalone sales price for each distinct product or service within the contract to allocate the transaction price to the distinct products or services. In instances when a standalone sales price for each product or service is not observable within the contract, we allocate the transaction price to each performance obligation using an estimate of the standalone selling price for each product or service, which is generally based on incurred costs plus a reasonable margin, for each distinct product or service in the contract.

When determining the transaction price of each contract, we consider contractual consideration payable by the customer and variable consideration that may affect the total transaction price. Variable consideration, consisting of early payment discounts, rebates and other sources of price variability, are included in the estimated transaction price based on both customer-specific information as well as historical experience. We regularly review our estimates of variable consideration on the transaction price and recognize changes in estimates on a cumulative catch-up basis as if the most current estimate of the transaction price adjusted for variable consideration had been known as of the inception of the contract.

Point in time and over time revenue recognition

Control of the products generally transfers to the customer at a point in time, as the customer does not control the products as they are produced. We exercise judgment and consider the timing of right of payment, transfer of the risk and rewards, transfers of title, transfer of physical possession, and customer acceptance when determining when control of the product transfers to the customer, generally upon shipment of products. Performance obligations are satisfied and revenue is recognized over time if: (i) the customer receives the benefits as we perform work, if the customer controls the asset as it is being enhanced, or if the product being produced for the customer has no alternative use to us; and (ii) we have an enforceable right to payment with a profit. When services are provided, revenue from those services is recognized over time because control is transferred continuously to customers as we perform the work.

For services that are not short-term in nature, manufacturing, repair and overhaul ("MRO"), and sales of products that have no alternative use to us and an enforceable right to payment with a profit, we use an actual cost input measure to determine the extent of progress towards completion of the performance obligation. For these revenue streams, revenue is recognized over time as work is performed based on the relationship between actual costs incurred to-date for each contract and the total estimated costs for such contract at completion of the performance obligation (the cost-to-cost method). We have concluded that this measure of progress best depicts the transfer of assets to the customer, because

incurred costs are integral to our completion of the performance obligation under the specific customer contract and correlate directly to the transfer of control to the customer. Contract costs include labor, material and overhead. Contract cost estimates are based on various assumptions to project the outcome of future events. These assumptions include labor productivity and availability; the complexity of the work to be performed; the cost and availability of materials; the performance of subcontractors; and the availability and timing of funding from the customer. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred.

Inventory

Inventories are valued at the lower of cost or net realizable value. Inventory cost is determined using methods that approximate the first-in, first-out basis. We include product costs, labor and related fixed and variable overhead in the cost of inventories. Inventory net realizable values are determined by giving substantial consideration to the expected product selling price. We estimate expected selling prices based on our historical recovery rates, general economic and market conditions, the expected channel of disposition, and current customer contracts and preferences. Actual results may differ from our estimates due to changes in resale or market value and the mix of these factors.

We monitor inventory for events or circumstances, such as negative margins, recent sales history suggesting lower sales value, or changes in customer preferences, which would indicate the net realizable value of inventory is less than the carrying value of inventory, and management records adjustments as necessary. When inventory is written down below cost, such reduced amount is considered the cost for subsequent accounting purposes. Our recording of inventory at the lower of cost or net realizable value has not historically required material adjustments once initially established.

The carrying value of inventory was \$514,287 at September 30, 2022 and \$419,971 at September 30, 2021. If economic conditions, customer product requirements, or other factors significantly reduce future customer demand for our products from forecast levels, then future adjustments to the carrying value of inventory may become necessary. We attempt to maintain inventory quantities at levels considered necessary to fill firm and expected orders in a reasonable time frame, which we believe mitigates our exposure to future inventory carrying cost adjustments.

Reviews for impairment of goodwill and other indefinitely lived intangible assets

Goodwill

At September 30, 2022, we had \$772,559 of goodwill representing 20% of our total assets. Goodwill is tested for impairment at the reporting unit level on an annual basis and more often if an event occurs or circumstances change that indicate the fair value of a reporting unit may be below its carrying amount.

The identification of reporting units and consideration of the aggregation of components into a single reporting unit under U.S. GAAP requires management judgment. The impairment test consists of comparing the fair value of reporting units, determined using discounted cash flows, with their carrying amount including goodwill. If the carrying amount of the reporting unit exceeds its fair value, we compare the implied fair value of goodwill with its carrying amount. If the carrying amount of goodwill exceeds the implied fair value of goodwill, an impairment loss would be recognized to reduce the carrying amount to its implied fair value.

During the fourth quarter, we completed our annual goodwill impairment test as of July 31, 2022 for the fiscal year ended September 30, 2022. The results of our annual goodwill impairment test performed as of July 31, 2022, indicated the estimated fair value of each reporting unit was in excess of its carrying value, and accordingly, no impairment existed.

Indefinitely lived intangible asset

We have one indefinitely lived intangible asset consisting of the Woodward L'Orange trade name. At September 30, 2022, the carrying value of the Woodward L'Orange trade name intangible asset was \$56,838, representing 2% of our total assets. The Woodward L'Orange trade name intangible asset is tested for impairment on an annual basis and more often if an event occurs or circumstances change that indicate the fair value of the Woodward L'Orange intangible asset may be below its carrying amount. The impairment test consists of comparing the fair value of the Woodward L'Orange trade name intangible asset, determined using discounted cash flows based on the relief from royalty method under the income approach, with its carrying amount. If the carrying amount of the Woodward L'Orange trade name intangible asset exceeds its fair value, an impairment loss would be recognized to reduce the carrying amount to its fair value. Woodward has not recorded any impairment charges associated with the indefinitely lived intangible asset.

During the fourth quarter, we completed the annual impairment test, for the fiscal year ended September 30, 2022, of the Woodward L'Orange trade name intangible asset as of July 31, 2022. The results of the annual impairment test performed as of July 31, 2022 indicated the estimated fair value of the Woodward L'Orange trade name intangible asset was in excess of its carrying value, and accordingly, no impairment existed.

As part of our ongoing monitoring efforts to assess goodwill and the Woodward L'Orange trade name indefinite lived asset for possible indications of impairment, we will continue to consider a wide variety of factors, including but not limited to the global economic environment and its potential impact on our business. There can be no assurance that our estimates and assumptions regarding forecasted cash flows of certain reporting units or the Woodward L'Orange business, the current economic environment, or the other inputs used in forecasting the present value of forecasted cash flows will prove to be accurate projections of future performance.

Income taxes

We are subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and determining our provision for income taxes.

During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. The reserves are established when we believe that certain positions are likely to be challenged and may not be fully sustained on review by tax authorities. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or refinement of an estimate. Although we believe our reserves are reasonable, no assurance can be given that the final outcome of these matters will be consistent with what is reflected in our historical income tax provisions and accruals. To the extent that the final tax outcome of these matters is different from the amounts recorded, such differences will impact the current provision for income taxes.

Significant judgment is also required in determining any valuation allowance recorded against deferred tax assets. The determination of the amount of valuation allowance to be provided on recorded deferred tax assets involves estimates regarding the timing and amount of the reversal of taxable temporary differences, expected future taxable income, and the impact of tax planning strategies. A valuation allowance is established to offset any deferred tax assets if, based upon the available evidence, it is more likely than not that some or all of the deferred tax asset will not be realized. In assessing the need for a valuation allowance, we consider all available evidence including past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. Changes in the relevant facts can significantly impact the judgment or need for valuation allowances. In the event we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

Our provision for income taxes is subject to volatility and could be affected by earnings that are different than those anticipated in countries which have lower or higher tax rates; by transfer pricing adjustments; and/or changes in tax laws, regulations, and accounting principles, including accounting for uncertain tax positions, or interpretations thereof. There can be no assurance that these items will remain stable over time. Additionally, Woodward records through income tax expense all future excess tax benefits and tax deficiencies from stock options exercised. This creates unpredictable volatility in the effective tax rate because the additional expense or benefit recognized each quarter is based on the timing of the employee's election to exercise any vested stock options outstanding, which is outside Woodward's control, and the market price of Woodward's shares at the time of exercise, which is subject to market volatility.

Our effective tax rates differ from the U.S. statutory rate primarily due to the tax impact of foreign operations, adjustments of valuation allowances, research tax credits, state taxes, and tax audit settlements. In addition to potential local country tax law and policy changes that could impact the provision for income taxes, management's judgment about

and intentions concerning the repatriation of foreign earnings could also significantly impact the provision for income taxes. Management reassesses its judgment regularly, taking into consideration the potential tax impacts of these judgments and intentions.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

In the normal course of business, we have exposures to interest rate risk from our long-term and short-term debt, and our postretirement benefit plans, and foreign currency exchange rate risk related to our foreign operations and foreign currency transactions.

Foreign Currency Exchange Rate Risk, Interest Rate Risk, and Related Hedging Activities

We are impacted by changes in foreign currency exchange rates when we sell product in currencies different from the currency in which product and manufacturing costs were incurred. The functional currencies and our purchasing and sales activities primarily include USD, EUR, RMB, JPY and GBP. We may also be impacted by changes in the relative buying power of our customers, which may impact sales volumes either positively or negatively. As these currencies fluctuate against each other, and other currencies, we are exposed to foreign currency exchange rate risk on sales, purchasing transactions, and labor. Foreign currency exchange rate risk is reduced through the maintenance of local production facilities in the markets we serve, which we believe creates a natural hedge to our foreign currency exchange rate exposure.

The percentages of our net sales denominated in a currency other than the USD were as follows:

	For the Year Ended September 30,	
	2022	2021
Functional currency:		
EUR	15.7%	14.2%
RMB	3.4%	8.0%
JPY	2.9%	1.3%
GBP	1.7%	2.6%
All other foreign currencies	1.9%	1.5%
	25.6%	27.6%

Currency exchange rates vary daily and often one currency strengthens against the USD while another currency weakens. Because of the complex interrelationship of our worldwide supply chains and distribution channels, it is difficult to quantify the impact of a particular change in exchange rates.

We use derivative instruments as risk management tools that involve complexity and are not used for trading or speculative purposes. From time to time, we will enter into a foreign currency exchange rate contract to hedge against changes in foreign currency exchange rates on liabilities expected to be settled at a future date. Market risk arises from the potential adverse effects on the value of derivative instruments that result from a change in foreign currency exchange rates. We minimize this market risk by establishing and monitoring parameters that limit the types of, and degree to which we enter into, derivative instruments. We enter into derivative instruments for risk management purposes only. We do not enter into or issue derivatives for trading or speculative purposes. As of September 30, 2022 and 2021, we had no open foreign currency exchange rate contracts and all previous exchange rate derivative instruments were settled or terminated.

For more information on derivative instruments, see Note 8, *Derivative instruments and hedging activities*, in the Notes to the Consolidated Financial Statements in “Item 8 – Financial Statements and Supplementary Data.”

Our reported financial results of operations, including the reported value of our assets and liabilities, are also impacted by changes in foreign currency exchange rates. The assets and liabilities of substantially all of our subsidiaries outside the United States are translated at period end rates of exchange for each reporting period. Earnings and cash flow statements are translated at weighted-average rates of exchange. Although these translation changes have no immediate cash impact, the translation changes may impact future borrowing capacity, debt covenants, and the overall value of our net assets. In addition, we also have assets and liabilities, specifically accounts receivable, accounts payable and current inter-company receivables and payables, whose carrying amounts approximate their fair value, which are denominated in currencies other than their relevant functional currencies. Foreign currency exchange rate risk is mitigated through several means, including the invoicing of customers in the same currency as the source of the products, and the prompt settlement of inter-company balances utilizing a global netting system.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Woodward, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Woodward, Inc. and subsidiaries (the "Company") as of September 30, 2022 and 2021, the related consolidated statements of earnings, comprehensive earnings, shareholders' equity, and cash flows, for each of the three years in the period ended September 30, 2022, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of September 30, 2022, 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 financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2022, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

Basis for Opinions

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

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

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (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.

Critical Audit Matters

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 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.

Intangible Assets, net – Trade name — Refer to Notes 1 and 14 to the financial statements

Critical Audit Matter Description

The Company has one indefinitely lived intangible asset consisting of the Woodward L'Orange trade name ("trade name"). As of September 30, 2022, the carrying value of the trade name is \$56.8 million. The trade name is tested for impairment on an annual basis and more often if an event occurs or circumstances change that indicate the fair value of the trade name may be below its carrying amount. The Company completed its annual impairment test of the trade name as of July 31, 2022. The results of impairment test indicated the estimated fair value of the trade name was in excess of its carrying value and, accordingly, no impairment existed.

The fair value of the trade name was determined using discounted cash flows based on the relief from royalty method under the income approach. This method incorporates various estimates and assumptions, the most significant being projected revenue growth rates, royalty rates and the present value of the forecasted cash flows based on the discount rate and terminal growth rate. The Company projects revenue growth rates and cash flows based on Woodward L'Orange's current operational results, expected performance and operational strategies over a five-year period. These projections are adjusted to reflect current economic conditions and demand for certain products and require considerable management judgment. Changes in these estimates and assumptions can have a significant impact on the fair value.

We identified the fair value of the trade name as a critical audit matter because of the significant judgments and assumptions management makes related to the projection of revenue growth rates and the selection of the discount rate, terminal growth rate and royalty rate. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's projection of revenue growth rates and selection of the discount rate, terminal growth rate and royalty rate.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the projection of revenue growth rates and selection of the discount rate, terminal growth rate, and royalty rate used in determining the fair value of the trade name included the following, among others:

- We tested the effectiveness of controls over the fair value of the trade name, including those over the projection of revenue growth rates and the selection of the discount rate, terminal growth rate and royalty rate.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the discount rate, terminal growth rate, and royalty rate by:
 - Testing the source information underlying the determination of the discount rate, terminal growth rate and royalty rate and recalculating the mathematical accuracy of management's calculation of the discount rate
 - Developing a range of independent estimates over the discount rate and terminal growth rate and comparing those to the discount and terminal growth rates selected by management

- Comparing the royalty rate from comparable licensing agreements to the rate selected by management
 - Searching for any events which could adversely impact the fair value of the brand
- We evaluated the reasonableness of management's projected revenue growth rates by:
 - Comparing management's projections to:
 - Historical revenue results for Woodward L'Orange
 - Internal communications to management and the board of directors
 - Analyst and industry reports
 - Peer company forecasts
 - Considering the impact of changes in management's projections from the July 31, 2022, annual assessment date to September 30, 2022 by comparing actual results for the period to management projections within the original valuation model.
- We evaluated whether a triggering event existed subsequent to management's impairment testing date, but prior to the balance sheet date.

/s/ DELOITTE & TOUCHE LLP

Denver, Colorado

November 18, 2022

We have served as the Company's auditor since 2008.

WOODWARD, INC.
CONSOLIDATED STATEMENTS OF EARNINGS
(In thousands, except per share amounts)

	Year Ended September 30,		
	2022	2021	2020
Net sales	\$ 2,382,790	\$ 2,245,832	\$ 2,495,665
Costs and expenses:			
Cost of goods sold	1,857,485	1,694,774	1,855,422
Selling, general and administrative expenses	203,005	186,866	217,710
Research and development costs	119,782	117,091	133,134
Impairment of assets sold	—	—	37,902
Restructuring activities	(3,420)	5,008	22,216
Gain on cross-currency interest rate swaps, net	—	—	(30,481)
Interest expense	34,545	34,282	35,811
Interest income	(1,814)	(1,495)	(1,764)
Other (income) expense, net	(26,691)	(36,493)	(56,166)
Total costs and expenses	<u>2,182,892</u>	<u>2,000,033</u>	<u>2,213,784</u>
Earnings before income taxes	199,898	245,799	281,881
Income tax expense	28,200	37,150	41,486
Net earnings	\$ 171,698	\$ 208,649	\$ 240,395
Earnings per share:			
Basic earnings per share	\$ 2.79	\$ 3.30	\$ 3.86
Diluted earnings per share	\$ 2.71	\$ 3.18	\$ 3.74
Weighted Average Common Shares Outstanding:			
Basic	61,517	63,287	62,267
Diluted	63,254	65,555	64,209

See accompanying Notes to Consolidated Financial Statements

WOODWARD, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS
(In thousands)

	Year Ended September 30,		
	2022	2021	2020
Net earnings	\$ 171,698	\$ 208,649	\$ 240,395
Other comprehensive earnings:			
Foreign currency translation adjustments	(63,026)	8,628	15,668
Net gain (loss) on foreign currency transactions designated as hedges of net investments in foreign subsidiaries	7,206	592	(3,199)
Taxes on changes on foreign currency translation adjustments	2,230	(1,433)	75
Foreign currency translation and transactions adjustments, net of tax	<u>(53,590)</u>	<u>7,787</u>	<u>12,544</u>
Unrealized gain (loss) on fair value adjustment of derivative instruments	89,048	(1,672)	(18,262)
Reclassification of net realized (gains) losses on derivatives to earnings	(68,880)	(3,702)	2,134
Taxes on changes on derivative transactions	(786)	234	626
Derivative adjustments, net of tax	<u>19,382</u>	<u>(5,140)</u>	<u>(15,502)</u>
Minimum retirement benefit liability adjustments:			
Net gain arising during the period	6,318	27,809	20,179
Prior service cost arising during the period	—	(611)	—
Amortization of:			
Prior service cost	1,004	995	962
Net loss	720	1,502	2,523
Foreign currency exchange rate changes on minimum retirement benefit liabilities	1,158	(855)	(1,672)
Taxes on changes on minimum retirement benefit liability adjustments	<u>(1,936)</u>	<u>(7,312)</u>	<u>(5,522)</u>
	<u>7,264</u>	<u>21,528</u>	<u>16,470</u>
Total comprehensive earnings	<u>\$ 144,754</u>	<u>\$ 232,824</u>	<u>\$ 253,907</u>

See accompanying Notes to Consolidated Financial Statements

WOODWARD, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)

	<u>September 30,</u> <u>2022</u>	<u>September 30,</u> <u>2021</u>
ASSETS		
Current assets:		
Cash and cash equivalents, including restricted cash of \$0 and \$1,907, respectively	\$ 107,844	\$ 448,462
Accounts receivable, less allowance for uncollectible amounts of \$3,922 and \$3,664, respectively	609,964	523,051
Inventories	514,287	419,971
Income taxes receivable	5,179	12,071
Other current assets	74,695	61,168
Total current assets	<u>1,311,969</u>	<u>1,464,723</u>
Property, plant and equipment, net	910,472	950,569
Goodwill	772,559	805,333
Intangible assets, net	460,580	559,289
Deferred income tax assets	23,447	14,066
Other assets	327,419	297,024
Total assets	<u>\$ 3,806,446</u>	<u>\$ 4,091,004</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt	\$ 66,800	\$ —
Current portion of long-term debt	856	728
Accounts payable	230,519	170,909
Income taxes payable	34,655	11,481
Accrued liabilities	206,283	183,139
Total current liabilities	<u>539,113</u>	<u>366,257</u>
Long-term debt, less current portion	709,760	734,122
Deferred income tax liabilities	127,195	157,936
Other liabilities	529,256	617,908
Total liabilities	<u>1,905,324</u>	<u>1,876,223</u>
Commitments and contingencies (Note 22)		
Stockholders' equity:		
Preferred stock, par value \$0.003 per share, 10,000 shares authorized, no shares issued	—	—
Common stock, par value \$0.001455 per share, 150,000 shares authorized, 72,960 shares issued	106	106
Additional paid-in capital	293,540	261,735
Accumulated other comprehensive losses	(92,563)	(65,619)
Deferred compensation	6,781	7,949
Retained earnings	2,727,233	2,600,513
	2,935,097	2,804,684
Treasury stock at cost, 13,207 shares and 9,702 shares, respectively	(1,027,194)	(581,954)
Treasury stock held for deferred compensation, at cost, 139 shares and 167 shares, respectively	(6,781)	(7,949)
Total stockholders' equity	<u>1,901,122</u>	<u>2,214,781</u>
Total liabilities and stockholders' equity	<u>\$ 3,806,446</u>	<u>\$ 4,091,004</u>

See accompanying Notes to Consolidated Financial Statements

WOODWARD, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended September 30,		
	2022	2021	2020
Cash flows from operating activities:			
Net earnings	\$ 171,698	\$ 208,649	\$ 240,395
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	120,628	129,524	131,158
Impairment of assets sold	—	—	37,902
Net (gain) on sales of assets and businesses	(1,775)	(4,452)	(23,598)
Net (gain) on cross-currency interest rate swaps	—	—	(30,481)
Stock-based compensation	20,109	21,475	22,902
Deferred income taxes	(23,226)	(11,964)	1,311
Changes in operating assets and liabilities:			
Trade accounts receivable	(54,380)	41,241	52,095
Unbilled receivables (contract assets)	(44,451)	(16,491)	(22,028)
Costs to fulfill a contract	(17,118)	(19,761)	(27,446)
Inventories	(110,196)	18,871	61,019
Accounts payable and accrued liabilities	122,963	61,793	(153,318)
Contract liabilities	12,466	24,848	25,882
Income taxes	29,644	21,509	(37,099)
Retirement benefit obligations	(4,424)	(6,848)	(3,777)
Other	(28,300)	(3,725)	74,574
Net cash provided by operating activities	193,638	464,669	349,491
Cash flows from investing activities:			
Payments for purchase of property, plant, and equipment	(52,868)	(37,689)	(47,087)
Proceeds from sale of assets	43	154	30,173
Payments for business acquisition, net of cash acquired	(21,549)	—	—
Proceeds from business divestiture	6,000	—	10,443
Proceeds from sales of short-term investments	12,557	16,575	12,700
Payments for purchases of short-term investments	(9,632)	(14,337)	(13,109)
Net cash used in investing activities	(65,449)	(35,297)	(6,880)
Cash flows from financing activities:			
Cash dividends paid	(44,978)	(36,041)	(37,664)
Proceeds from sales of treasury stock	21,897	34,706	24,969
Payments for repurchases of common stock	(485,300)	(33,344)	(13,346)
Borrowings on revolving lines of credit and short-term borrowings	952,000	74,400	1,248,135
Payments on revolving lines of credit and short-term borrowings	(885,200)	(74,400)	(1,510,746)
Payments of long-term debt and finance lease obligations	(797)	(101,639)	(1,590)
Net cash used in financing activities	(442,378)	(136,318)	(290,242)
Effect of exchange rate changes on cash and cash equivalents	(26,429)	2,138	1,828
Net change in cash and cash equivalents	(340,618)	295,192	54,197
Cash and cash equivalents, including restricted cash, at beginning of year	448,462	153,270	99,073
Cash and cash equivalents, including restricted cash, at end of year	\$ 107,844	\$ 448,462	\$ 153,270

See accompanying Notes to Consolidated Financial Statements

WOODWARD, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except per share amounts)

	Number of shares			Stockholders' equity											
	Common stock	Treasury stock	Treasury stock held for deferred compensation	Accumulated other comprehensive (loss) earnings							Deferred compensation	Retained earnings	Treasury stock at cost	Treasury stock held for deferred compensation	Total stockholders' equity
				Common stock	Additional paid-in capital	Foreign currency translation adjustments	Unrealized derivative gains (losses)	Minimum retirement benefit liability adjustments	Total accumulated other comprehensive (loss) earnings						
Balances as of September 30, 2019	72,960	(11,040)	(211)	\$ 106	\$ 207,120	\$ (53,235)	\$ (4,955)	\$ (45,116)	\$ (103,306)	\$ 9,382	\$ 2,224,919	\$ (602,098)	\$ (9,382)	\$ 1,726,741	
Cumulative effect from adoption of ASC 842	—	—	—	—	—	—	—	—	—	—	255	—	—	255	
Net earnings	—	—	—	—	—	—	—	—	—	—	240,395	—	—	240,395	
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	12,544	(15,502)	16,470	13,512	—	—	—	—	13,512	
Cash dividends paid (\$0.6050 per share)	—	—	—	—	—	—	—	—	—	—	(37,664)	—	—	(37,664)	
Purchases of treasury stock	—	(124)	—	—	—	—	—	—	—	—	—	(13,346)	—	(13,346)	
Sales of treasury stock	—	763	—	—	(7,506)	—	—	—	—	—	—	32,640	—	25,134	
Common shares issued from treasury stock for benefit plans	—	124	—	—	9,420	—	—	—	—	—	—	5,328	—	14,748	
Stock-based compensation	—	—	—	—	22,902	—	—	—	—	—	—	—	—	22,902	
Purchases and transfers of stock by/to deferred compensation plan	—	—	(6)	—	—	—	—	—	—	681	—	—	(681)	—	
Distribution of stock from deferred compensation plan	—	—	—	18	—	—	—	—	—	(841)	—	—	841	—	
Balances as of September 30, 2020	72,960	(10,277)	(199)	\$ 106	\$ 231,936	\$ (40,691)	\$ (20,457)	\$ (28,646)	\$ (89,794)	\$ 9,222	\$ 2,427,905	\$ (577,476)	\$ (9,222)	\$ 1,992,677	
Balances as of September 30, 2020	72,960	(10,277)	(199)	\$ 106	\$ 231,936	\$ (40,691)	\$ (20,457)	\$ (28,646)	\$ (89,794)	\$ 9,222	\$ 2,427,905	\$ (577,476)	\$ (9,222)	\$ 1,992,677	
Net earnings	—	—	—	—	—	—	—	—	—	—	208,649	—	—	208,649	
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	7,787	(5,140)	21,528	24,175	—	—	—	—	24,175	
Cash dividends paid (\$0.5688 per share)	—	—	—	—	—	—	—	—	—	—	(36,041)	—	—	(36,041)	
Purchases of treasury stock	—	(404)	—	—	—	—	—	—	—	—	—	(45,860)	—	(45,860)	
Sales of treasury stock	—	851	—	—	(1,218)	—	—	—	—	—	—	36,024	—	34,806	
Common shares issued from treasury stock for benefit plans	—	128	—	—	9,542	—	—	—	—	—	—	5,358	—	14,900	
Stock-based compensation	—	—	—	—	21,475	—	—	—	—	—	—	—	—	21,475	
Purchases and transfers of stock by/to deferred compensation plan	—	—	(3)	—	—	—	—	—	—	393	—	—	(393)	—	
Distribution of stock from deferred compensation plan	—	—	—	35	—	—	—	—	—	(1,666)	—	—	1,666	—	
Balances as of September 30, 2021	72,960	(9,702)	(167)	\$ 106	\$ 261,735	\$ (32,904)	\$ (25,597)	\$ (7,118)	\$ (65,619)	\$ 7,949	\$ 2,600,513	\$ (581,954)	\$ (7,949)	\$ 2,214,781	
Balances as of September 30, 2021	72,960	(9,702)	(167)	\$ 106	\$ 261,735	\$ (32,904)	\$ (25,597)	\$ (7,118)	\$ (65,619)	\$ 7,949	\$ 2,600,513	\$ (581,954)	\$ (7,949)	\$ 2,214,781	
Net earnings	—	—	—	—	—	—	—	—	—	—	171,698	—	—	171,698	
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	(53,590)	19,382	7,264	(26,944)	—	—	—	—	(26,944)	
Cash dividends paid (\$0.7325 per share)	—	—	—	—	—	—	—	—	—	—	(44,978)	—	—	(44,978)	

Purchases of treasury stock	—	(4,123)	—	—	—	—	—	—	—	—	(472,784)	—	(472,784)
Sales of treasury stock	—	468	—	—	1,131	—	—	—	—	—	20,977	—	22,108
Common shares issued from treasury stock for benefit plans	—	150	—	—	10,565	—	—	—	—	—	6,567	—	17,132
Stock-based compensation	—	—	—	—	20,109	—	—	—	—	—	—	—	20,109
Purchases and transfers of stock by/to deferred compensation plan	—	—	(3)	—	—	—	—	—	—	252	—	—	(252)
Distribution of stock from deferred compensation plan	—	—	31	—	—	—	—	—	—	(1,420)	—	—	1,420
Balances as of September 30, 2022	72,960	(13,207)	(139)	\$ 106	\$ 293,540	\$ (86,494)	\$ (6,215)	\$ 146	\$ (92,563)	\$ 6,781	\$ 2,727,233	\$ (1,027,194)	\$ (6,781) \$ 1,901,122

See accompanying Notes to Consolidated Financial Statements

WOODWARD, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except per share amounts)

Note 1. Operations and summary of significant accounting policies

Basis of presentation

The Consolidated Financial Statements are prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and include the accounts of Woodward, Inc. and its subsidiaries (collectively “Woodward” or “the Company”). Dollar amounts contained in these Consolidated Financial Statements are in thousands, except per share amounts.

Nature of operations

Woodward is an independent designer, manufacturer, and service provider of energy control and optimization solutions. Woodward designs, produces and services reliable, efficient, low-emission, and high-performance energy control products for diverse applications in challenging environments. Woodward has significant production and assembly facilities primarily in the United States, Europe and Asia, and promotes its products and services through its worldwide locations.

Woodward’s strategic focus is providing energy control and optimization solutions for the aerospace and industrial markets. The precise and efficient control of energy, including motion, fluid, combustion and electrical energy, is a growing requirement in the markets Woodward serves. Woodward’s customers look to it to optimize the efficiency, emissions and operation of power equipment in both commercial and defense operations. Woodward’s core technologies leverage well across its markets and customer applications, enabling it to develop and integrate cost-effective and state-of-the-art fuel, combustion, fluid, actuation and electronic systems. Woodward focuses its solutions and services primarily on serving original equipment manufacturers (“OEMs”) and equipment packagers, partnering with them to bring superior component and system solutions to their demanding applications. Woodward also provides aftermarket repair, maintenance, replacement and other service support for its installed products.

Woodward’s components and integrated systems optimize performance of commercial aircraft, defense aircraft, military ground vehicles and other equipment, gas and steam turbines, industrial diesel, gas, biodiesel and dual-fuel reciprocating engines, and electrical power systems. Woodward’s innovative motion, fluid, combustion and electrical energy control systems help its customers offer more cost-effective, cleaner, and more reliable equipment.

Global Business Conditions

We continue to monitor a variety of external issues impacting our business, including ongoing global supply chain and labor disruptions and rising labor and material inflation which together have led to a challenging industry-wide operating environment.

In fiscal year 2022 we experienced strong demand for our products and services, although our financial performance during fiscal year 2022 was adversely impacted by these issues. We are actively implementing strategies to mitigate our supply chain risk to better position us for future success. We also continue to assess the environment and are taking appropriate price actions in response to rising costs; however, the timing of many price increases can be delayed due to various pre-existing contractual arrangements. We remain focused on operational excellence initiatives, talent development and innovation to help drive the company forward and create value for our stockholders. We are unable to predict the full extent to which these issues will continue to adversely impact our business, including our operational performance, results of operations, cash flows, financial position, and the achievement of our strategic objectives. Such uncertainty may affect our ability to accurately predict our future performance and financial results.

We may take further actions to alter our business operations if we determine such actions are in the best interests of our stockholders, employees, customers and other stakeholders as appropriate. It is not currently clear what the potential effects of any such alterations or modifications may have on our business in future periods, including the effects on our customers, employees and prospects, or on our financial results.

Summary of significant accounting policies

Principles of consolidation: These Consolidated Financial Statements are prepared in accordance with U.S. GAAP and include the accounts of Woodward and its wholly and majority-owned subsidiaries. Transactions within and between these companies are eliminated.

Use of estimates: The preparation of the Consolidated Financial Statements requires management to make use of estimates and assumptions that affect the reported amount of assets and liabilities, at the date of the financial statements and the reported revenues and expenses recognized during the reporting period, and certain financial statement disclosures. Significant estimates include allowances for uncollectible amounts, net realizable value of inventories, customer rebates earned, useful lives of property and identifiable intangible assets, the evaluation of impairments of property, identifiable intangible assets and goodwill, the provision for income tax and related valuation reserves, the valuation of assets and liabilities acquired in business combinations, assumptions used in the determination of the funded status and annual expense of pension and postretirement employee benefit plans, the valuation of stock compensation instruments granted to employees, and contingencies. Actual results could differ from those estimates.

Foreign currency exchange rates: The assets and liabilities of substantially all subsidiaries outside the United States are translated at fiscal year-end rates of exchange, and earnings and cash flow statements are translated at weighted-average rates of exchange. The exchange rate in effect at the time of the cash flow is used for significant or infrequent cash flows, such as payments for a business acquisition, for which the use of weighted-average rates of exchange would result in a substantially different cash flow. Translation adjustments are accumulated with other comprehensive (losses) earnings as a separate component of stockholders' equity and are presented net of tax effects in the Consolidated Statements of Stockholders' Equity. The effects of changes in foreign currency exchange rates on loans between consolidated subsidiaries that are considered permanent in nature are also accumulated with other comprehensive earnings, net of tax.

The Company is exposed to market risks related to fluctuations in foreign currency exchange rates because some sales transactions, and certain assets and liabilities of its domestic and foreign subsidiaries, are denominated in foreign currencies. Selling, general, and administrative expenses include a net foreign currency gain of \$1,450 in fiscal year 2022, a net foreign currency loss of \$1,986 in fiscal year 2021, and a net foreign currency gain of \$194 in fiscal year 2020.

Revenue recognition: Revenue is recognized on contracts with customers for arrangements in which quantities and pricing are fixed and/or determinable and are generally based on customer purchase orders, often within the framework of a long-term supply arrangement with the customer. Woodward has determined that it is the principal in its sales transactions, as Woodward is primarily responsible for fulfilling the promised performance obligations, has discretion to establish the selling price, and generally assumes the inventory risk. Woodward recognizes revenue for performance obligations within a customer contract when control of the associated product or service is transferred to the customer. Some of Woodward's contracts with customers contain a single performance obligation, while other contracts contain multiple performance obligations. Each product within a contract generally represents a separate performance obligation as Woodward does not provide significant installation and integration services, the products do not customize each other, and the products can function independently of each other.

A contract's transaction price is allocated to each performance obligation and recognized as revenue when, or as, the customer obtains control of the associated product or service. When there are multiple performance obligations within a contract, Woodward generally uses the observable standalone sales price for each distinct product or service within the contract to allocate the transaction price to the distinct products or services. In instances when a standalone sales price for each product or service is not observable within the contract, Woodward allocates the transaction price to each performance obligation using an estimate of the standalone selling price for each product or service, which is generally based on incurred costs plus a reasonable margin, for each distinct product or service in the contract.

When determining the transaction price of each contract, Woodward considers contractual consideration payable by the customer and variable consideration that may affect the total transaction price. Variable consideration, consisting of early payment discounts, rebates and other sources of price variability, are included in the estimated transaction price based on both customer-specific information as well as historical experience.

Customers sometimes trade in used products in exchange for new or refurbished products. In addition, Woodward's customers sometimes provide inventory to Woodward which will be integrated into final products sold to those customers. Woodward obtains control of these exchanged products and customer provided inventory, and therefore, both are forms of noncash consideration. Noncash consideration paid by customers on overall sales transactions is additive to the transaction price. Woodward's net sales and cost of goods sold include the value of such noncash consideration for the same amount, with no resulting impact to earnings before income taxes. Upon receipt of such inventory, Woodward recognizes an inventory asset and a contract liability.

Point in time and over time revenue recognition: Control of the products generally transfers to the customer at a point in time, as the customer does not control the products as they are produced. Performance obligations are satisfied and revenue is recognized over time if: (i) the customer receives the benefits as Woodward performs work, if the customer

controls the asset as it is being enhanced, or if the product being produced for the customer has no alternative use to Woodward; and (ii) Woodward has an enforceable right to payment with a profit. For products being produced for the customer that have no alternative use to Woodward and Woodward has an enforceable right to payment with a profit, and where the products are substantially the same and have the same pattern of transfer to the customer, revenue is recognized as a series of distinct products. As Woodward satisfies manufacturing, repair and overhaul (“MRO”) performance obligations, revenue is recognized over time, as the customer, rather than Woodward, controls the asset being enhanced. When services are provided, revenue from those services is recognized over time because control is transferred continuously to customers as Woodward performs the work.

For services that are not short-term in nature, MRO, and sales of products that have no alternative use to Woodward and an enforceable right to payment with a profit, Woodward uses an actual cost input measure to determine the extent of progress towards completion of the performance obligation. For these revenue streams, revenue is recognized over time as work is performed based on the relationship between actual costs incurred to-date for each contract and the total estimated costs for such contract at completion of the performance obligation (the cost-to-cost method). Woodward has concluded that this measure of progress best depicts the transfer of assets to the customer, because incurred costs are integral to Woodward’s completion of the performance obligation under the specific customer contract and correlate directly to the transfer of control to the customer. Contract costs include labor, material and overhead. Contract cost estimates are based on various assumptions to project the outcome of future events. These assumptions include labor productivity and availability; the complexity of the work to be performed; the cost and availability of materials; the performance of subcontractors; and the availability and timing of funding from the customer. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred.

If at any time the estimate of contract profitability indicates an anticipated loss on the contract, Woodward recognizes provisions for estimated losses on uncompleted contracts in the period in which such losses are determined. In situations where the creditworthiness of a customer becomes in doubt, Woodward ceases to recognize the over-time revenue on the associated customer contract.

Occasionally, Woodward sells maintenance or service arrangements, extended warranties, or other stand ready services. Woodward recognizes revenue from such arrangements as a series of performance obligations over the time period in which the services are available to the customer.

Purchase accounting: Business combinations are accounted for using the purchase method of accounting. Under this method, assets and liabilities, including intangible assets, are recorded at their fair values as of the acquisition date. Acquisition costs in excess of amounts assigned to assets acquired and liabilities assumed are recorded as goodwill. Transaction-related costs associated with business combinations are expensed as incurred.

Material Rights and Costs to Fulfill a Contract: Customers sometimes pay consideration to Woodward for product engineering and development activities that do not result in the immediate transfer of distinct products or services to the customer. There is an implicit assumption that without the customer making such advance payments to Woodward, Woodward’s future sales of products or services to the customer would be at a higher selling price; therefore, such payments create a “material right” to the customer that effectively gives the customer an option to acquire future products or services, at a discount, that are dependent upon the product engineering and development. Material rights are recorded as contract liabilities and will be recognized when control of the related products or services are transferred to the customer.

Woodward capitalizes costs of product engineering and development identified as material rights up to the amount of customer funding as costs to fulfill a contract because the costs incurred up to the amount of the customer funding commitment are recoverable. Due to the uncertainty of the product success and/or demand, fulfillment costs in excess of the customer funding are expensed as incurred. Woodward recognizes the deferred material rights as revenue based on a percentage of actual sales to total estimated lifetime sales of the related developed products as the customers exercise their option to acquire additional products or services at a discount. Woodward amortizes the capitalized costs to fulfill a contract as cost of goods sold proportionally to the recognition of the associated deferred material rights. Estimated total lifetime sales are reviewed at least annually and more frequently when circumstances warrant a modification to the previous estimate.

Woodward does not capitalize incremental costs of obtaining a contract, as Woodward does not pay sales commissions or incur other incremental costs related to contracts with Woodward’s customers for arrangements in which quantities and pricing are fixed and/or determinable.

Contract liabilities: Advance payments and billings in excess of revenue recognized represent contract liabilities and are recorded as deferred revenues when customers remit contractual cash payments in advance of Woodward satisfying performance obligations under contractual arrangements, including those with performance obligations satisfied over time. Woodward generally receives advance payments from customers related to maintenance or service arrangements, extended warranties, or other stand ready services, which it recognizes over the performance period. Contract liabilities are satisfied when revenue is recognized and the performance obligation is satisfied. Advance payments and billings in excess of revenue recognized are included in deferred revenue, which is classified as current or noncurrent based on the timing of when Woodward expects to recognize revenue.

Customer payments: Woodward occasionally agrees to make payments to certain customers in order to participate in anticipated sales activity. Payments made to customers are accounted for as a reduction of revenue unless they are made in exchange for identifiable goods or services with fair values that can be reasonably estimated. Reductions in revenue associated with these customer payments are recognized immediately to the extent that the payments cannot be attributed to anticipated future sales, and are recognized in future periods to the extent that the payments relate to anticipated future sales. Such determinations are based on the facts and circumstances underlying each payment.

Stock-based compensation: Compensation cost relating to stock-based payment awards made to employees and directors is recognized in the financial statements using a fair value method. Non-qualified stock option awards and restricted stock awards are issued under Woodward's stock-based compensation plans. The cost of such awards, measured at the grant date, is based on the estimated fair value of the award.

Forfeitures are estimated at the time of each grant in order to estimate the portion of the award that will ultimately vest. The estimate is based on Woodward's historical rates of forfeitures and is updated periodically. The portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods, which is generally the vesting period of the awards.

Research and development costs: Company funded expenditures related to new product development, and significant product enhancement and/or upgrade activities are expensed as incurred and are separately reported in the Consolidated Statements of Earnings.

Income taxes: Deferred income taxes are provided for the temporary differences between the financial reporting basis and the tax basis of Woodward's assets, liabilities, and certain unrecognized gains and losses recorded in accumulated other comprehensive (losses) earnings. Woodward provides for taxes that may be payable if undistributed earnings of overseas subsidiaries were to be remitted to the United States, except for those earnings that it considers to be indefinitely invested.

Cash equivalents: Highly liquid investments purchased with an original maturity of three months or less are considered to be cash equivalents.

Accounts receivable: Almost all of Woodward's sales are made on credit and result in accounts receivable, which are recorded at the amount invoiced and are generally not collateralized. In the normal course of business, not all accounts receivable are collected and, therefore, an allowance for uncollectible amounts is provided equal to the amount that Woodward believes ultimately will not be collected, either from credit risk or other adjustments to the original selling price or anticipated cash discounts. In establishing the amount of the allowance related to the credit risk of accounts receivable, customer-specific information is considered related to delinquent accounts, past loss experience, bankruptcy filings, deterioration in the customer's operating results or financial position, current and forecasted economic conditions, and other relevant factors. Bad debt losses are deducted from the allowance, and the related accounts receivable balances are written off when the receivables are deemed uncollectible. Recoveries of accounts receivable previously written off are recognized when received. The allowance associated with anticipated other adjustments to the selling price or cash discounts is also established and is included in the allowance for uncollectible amounts. In establishing this amount, both customer-specific information as well as historical experience is considered.

In coordination with its customers and when terms are considered favorable to Woodward, Woodward from time-to-time transfers ownership to collect amounts due to Woodward for outstanding accounts receivable to third parties in exchange for cash. When the transfer of accounts receivable meets the criteria of Financial Accounting Standards Board ("FASB") ASC Topic 860-10, "Transfers and Servicing," and are without recourse, it is recognized as a sale and the accounts receivable is derecognized.

Unbilled receivables (contract assets) arise when the timing of billing differs from the timing of revenue recognized, such as when contract provisions require revenue to be recognized over time rather than at a point in time. Unbilled

receivables primarily relate to performance obligations satisfied over time when the cost-to-cost method is utilized and the revenue recognized exceeds the amount billed to the customer as there is not yet a right to payment in accordance with contractual terms. Unbilled receivables are recorded as a contract asset when the revenue associated with the contract is recognized prior to billing and derecognized when billed in accordance with the terms of the contract.

Consistent with common business practice in China, Woodward's Chinese subsidiaries accept bankers' acceptance notes from Chinese customers in settlement of certain customer billed accounts receivable. Bankers' acceptance notes are financial instruments issued by Chinese financial institutions as part of financing arrangements between the financial institution and a customer of the financial institution. Bankers' acceptance notes represent a commitment by the issuing financial institution to pay a certain amount of money at a specified future maturity date to the legal owner of the bankers' acceptance note as of the maturity date. The maturity date of bankers' acceptance notes varies, but it is Woodward's policy to only accept bankers' acceptance notes with maturity dates no more than 180 days from the date of Woodward's receipt of such draft. Woodward has elected to adopt the practical expedient to not adjust the promised amounts of consideration for the effects of a significant financing component at contract inception as the financing component associated with accepting bankers' acceptance notes has a duration of less than one year. Woodward's contracts with customers generally have no other financing components.

For composition of accounts receivable, see Note 3, *Revenue*.

Inventories: Inventories are valued at the lower of cost or net realizable value, with cost being determined using methods that approximate a first-in, first-out basis.

Short-term investments: From time to time, certain of Woodward's foreign subsidiaries will invest excess cash in short-term time deposits with a fixed maturity date of longer than three months but less than one year from the date of the deposit. Woodward believes that the investments are with creditworthy financial institutions. Amounts with maturities of less than 365 days are classified as "Other current assets."

Property, plant, and equipment: Property, plant, and equipment are recorded at cost and are depreciated over the estimated useful lives of the assets. Assets are generally depreciated using the straight-line method. Assets are tested for recoverability whenever events or circumstances indicate the carrying value may not be recoverable.

Estimated lives over which fixed assets are generally depreciated at September 30, 2022 were as follows:

Land improvements	3	—	20	years
Buildings and improvements	3	—	40	years
Leasehold improvements	1	—	10	years
Machinery and production equipment	3	—	20	years
Computer equipment and software	1	—	10	years
Office furniture and equipment	3	—	10	years
Other	3	—	10	years

Included in computer equipment and software are Woodward's enterprise resource planning ("ERP") systems, which have an estimated useful life of 15 years. All other computer equipment and software is generally depreciated over three years to five years.

Leases: Right-of-use ("ROU") assets and lease liabilities are recognized at the lease commencement date based on the estimated present value of the remaining fixed lease payments over the lease term. In determining the estimated present value of lease payments, Woodward discounts the fixed lease payments using the rate implicit in the agreement or, if the implicit rate is not known, using the incremental borrowing rate. Woodward's incremental borrowing rate is based on the information available at the lease commencement date, with consideration given to Woodward's recent debt issuances as well as publicly available data for instruments with similar characteristics.

For operating leases, lease expense is recognized over the expected lease term and classified as a cost of goods sold or selling, general and administrative expense based on the nature of the underlying leased asset. For finance leases, the ROU asset is recognized over the shorter of the useful life of the asset, consistent with Woodward's normal depreciation policy, or the lease term, and is classified as a cost of goods sold, selling, general and administrative expense, or research and development expense, based on the nature and use of the underlying leased asset.

Certain of Woodward's operating lease agreements include variable payments that are passed through by the landlord, such as insurance, taxes, and common area maintenance, payments based on the usage of the asset, and rental payments adjusted periodically for inflation. Pass-through charges, payments due to changes in usage of the asset, and

payments due to changes in indexation are included within variable rent expense and are recognized in the period in which the variable obligation for the payments was incurred.

Goodwill: Woodward tests goodwill for impairment at the reporting unit level on an annual basis and more often if an event occurs or circumstances change that indicates the fair value of a reporting unit may be below its carrying amount. Based on the relevant U.S. GAAP authoritative guidance, Woodward aggregates components of a single operating segment into a reporting unit, if appropriate. The impairment test consists of comparing the implied fair value of each reporting unit with its carrying amount that includes goodwill. If the carrying amount of the reporting unit exceeds its implied fair value, Woodward compares the implied fair value of goodwill with the recorded carrying amount of goodwill. If the carrying amount of goodwill exceeds the implied fair value of goodwill, an impairment loss would be recognized to reduce the carrying amount to its implied fair value.

Based on the results of Woodward's annual goodwill impairment testing, no impairment charges were recorded in the year ended September 30, 2022 or since the goodwill was originally recorded due to the annual goodwill impairment test.

Other intangibles: Other intangibles are recognized apart from goodwill whenever an acquired intangible asset arises from contractual or other legal rights, or whenever it is capable of being separated or divided from the acquired entity and sold, transferred, licensed, rented, or exchanged, either individually or in combination with a related contract, asset, or liability. Woodward amortizes the cost of other intangibles over their useful lives unless such lives are deemed indefinite. The cost of finite-lived other intangibles are amortized over their respective useful life using patterns that reflect the periods over which the economic benefits of the assets are expected to be realized. Amortization expense is allocated to cost of goods sold and selling, general, and administrative expenses based on the nature of the intangible asset. Finite-lived other intangible assets are reviewed for impairment whenever an event occurs or circumstances change indicating that the related carrying amount of the other intangible asset may not be recoverable. Impairment losses are recognized if the carrying amount of an intangible is both not recoverable and exceeds its fair value.

Woodward has recorded no impairment charges related to its other intangibles as of September 30, 2022.

Estimated lives over which intangible assets are amortized at September 30, 2022 were as follows:

Customer relationships and contracts	11	—	30	years
Intellectual property	15	—	17	years
Process technology	10	—	30	years
Other	5	—	5	years

Woodward has one indefinitely lived intangible asset consisting of the Woodward L'Orange trade name. The Woodward L'Orange trade name intangible asset is tested for impairment on an annual basis and more often if an event occurs or circumstances change that indicate the fair value of the Woodward L'Orange intangible asset may be below its carrying amount. The impairment test consists of comparing the fair value of the Woodward L'Orange trade name intangible asset, determined using discounted cash flows, with its carrying amount. If the carrying amount of the Woodward L'Orange intangible asset exceeds its fair value, an impairment loss would be recognized to reduce the carrying amount to its fair value. Woodward has not recorded any impairment charges.

Impairment of long-lived assets: Woodward reviews the carrying amount of its long-lived assets or asset groups to be used in operations whenever events or changes in circumstances indicate that the carrying amount of the assets might not be recoverable. Factors that would necessitate an impairment assessment include a significant adverse change in the extent or manner in which an asset is used, a significant adverse change in legal factors or the business climate that could affect the value of the asset, or a significant decline in the observable market value of an asset, among others.

If such facts indicate a potential impairment, the Company would assess the recoverability of an asset group by determining if the carrying amount of the asset group exceeds the sum of the projected undiscounted cash flows expected to result from the use and eventual disposition of the assets over the remaining economic life of the primary asset in the asset group. If the recoverability test indicates that the carrying amount of the asset group is not recoverable, the Company will estimate the fair value of the asset group using appropriate valuation methodologies, which would typically include an estimate of discounted cash flows. Any impairment would be measured as the difference between the asset group's carrying amount and its estimated fair value.

Investment in marketable equity securities: Woodward holds marketable equity securities related to its deferred compensation program. Based on Woodward's intentions regarding these instruments, marketable equity securities are classified as trading securities. The trading securities are reported at fair value, with realized gains and losses recognized in "Other (income) expense, net." The trading securities are included in "Other assets." The associated obligation to provide benefits under the deferred compensation program is included in "Other liabilities."

Investments in unconsolidated subsidiaries: Investments in, and operating results of, entities in which Woodward does not have a controlling financial interest or the ability to exercise significant influence over the operations are included in the financial statements using the cost method of accounting. Investments and operating results of entities in which Woodward does not have a controlling interest but does have the ability to exercise significant influence over operations are included in the financial statements using the equity method of accounting.

Deferred compensation: The Company maintains a deferred compensation plan, or “rabbi trust,” as part of its overall compensation package for certain employees.

Deferred compensation obligations will be settled either by delivery of a fixed number of shares of Woodward’s common stock (in accordance with certain eligible members’ irrevocable elections) or in cash. Woodward has contributed shares of its common stock into a trust established for the future settlement of deferred compensation obligations that are payable in shares of Woodward’s common stock. Common stock held by the trust is reflected in the Consolidated Balance Sheets as “Treasury stock held for deferred compensation” and the related deferred compensation obligation is reflected as a separate component of equity in amounts equal to the fair value of the common stock at the dates of contribution. These accounts are not adjusted for subsequent changes in the fair value of the common stock. Deferred compensation obligations that will be settled in cash are accounted for on an accrual basis in accordance with the terms of the underlying contract and are reflected in the Consolidated Balance Sheet as “Other liabilities.”

Financial instruments: The Company’s financial instruments include cash and cash equivalents, short-term investments, investments in the deferred compensation program, notes receivable from municipalities, investments in term deposits, cross-currency interest rate swaps and debt. Because of their short-term maturity, the carrying amount of cash and cash equivalents, and short-term debt approximate fair value. Financial assets and liabilities recorded at fair value in the Consolidated Balance Sheets are categorized based upon a fair value hierarchy established by U.S. GAAP, which prioritizes the inputs used to measure fair value into the following levels:

Level 1: Inputs based on quoted market prices in active markets for identical assets or liabilities at the measurement date.

Level 2: Quoted prices included in Level 1, such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable and can be corroborated by observable market data.

Level 3: Inputs reflect management’s best estimates and assumptions of what market participants would use in pricing the asset or liability at the measurement date. The inputs are unobservable in the market and significant to the valuation of the instruments.

Further information on the fair value of financial instruments can be found at Note 7, *Financial instruments and fair value measurements*.

Derivatives: The Company is exposed to various global market risks, including the effect of changes in interest rates, foreign currency exchange rates, changes in certain commodity prices and fluctuations in various producer indices. From time to time, Woodward enters into derivative instruments for risk management purposes only, including derivatives designated as accounting hedges and/or those utilized as economic hedges. Woodward uses interest rate related derivative instruments to manage its exposure to fluctuations of interest rates. Woodward does not enter into or issue derivatives for trading or speculative purposes.

By using derivative and/or hedging instruments to manage its risk exposure, Woodward is subject, from time to time, to credit risk and market risk on those derivative instruments. Credit risk arises from the potential failure of the counterparty to perform under the terms of the derivative and/or hedging instrument. When the fair value of a derivative contract is positive, the counterparty owes Woodward, which creates credit risk for Woodward. Woodward mitigates this credit risk by entering into transactions only with counterparties that are believed to be creditworthy. Market risk arises from the potential adverse effects on the value of derivative and/or hedging instruments that result from a change in interest rates, commodity prices, or foreign currency exchange rates. Woodward minimizes this market risk by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

From time to time, in order to hedge against foreign currency exposure, Woodward designates certain non-derivative financial instrument loans as net investment hedges. Foreign exchange gains or losses on these loans are recognized in foreign currency translation adjustments within total comprehensive (losses) earnings. Also, to hedge against the foreign currency exposure attributable to non-functional currency denominated intercompany loans, Woodward has entered into derivative instruments in fair value hedging relationships and cash flow hedging relationships.

Further information on net investment hedges and derivative instruments in fair value and cash flow hedging relationships, including the Company's policy in accounting for these derivatives, can be found at Note 8, *Derivative instruments and hedging activities*.

Postretirement benefits: The Company provides various benefits to certain current and former employees through defined benefit pension and postretirement plans. For financial reporting purposes, net periodic benefits expense and related obligations are calculated using a number of significant actuarial assumptions. Changes in net periodic expense and funding status may occur in the future due to changes in these assumptions. The funded status of defined pension and postretirement plans recognized in the statement of financial position is measured as the difference between the fair market value of the plan assets and the benefit obligation. For a defined benefit pension plan, the benefit obligation is the projected benefit obligation; for any other defined benefit postretirement plan, such as a retiree health care plan, the benefit obligation is the accumulated benefit obligation. Any over-funded status is recognized as an asset and any underfunded status is recognized as a liability.

Projected benefit obligation is the actuarial present value as of the measurement date of all benefits attributed by the plan benefit formula to employee service rendered before the measurement date using assumptions as to future compensation levels if the plan benefit formula is based on those future compensation levels. The accumulated benefit obligation is the actuarial present value of benefits (whether vested or unvested) attributed by the plan benefit formula to employee service rendered before the measurement date and based on employee service and compensation, if applicable, prior to that date. The accumulated benefit obligation differs from the projected benefit obligation in that it includes no assumption about future compensation levels.

Note 2. New accounting standards

From time to time, the Financial Accounting Standards Board ("FASB") or other standards setting bodies issue new accounting pronouncements. Updates to the FASB Accounting Standards Codification ("ASC") are communicated through issuance of an Accounting Standards Update ("ASU"). Recently adopted or anticipated impacts of significant future ASU's are described below, as applicable.

In March 2020, the FASB issued ASU 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting." The purpose of ASU 2020-04 is to provide optional guidance for a limited time to ease the potential burden in accounting for, or recognizing the effects of, reference rate reform on financial reporting. In response to concerns about structural risks of interbank offered rates, and, in particular, the risk of cessation of the London Interbank Offered Rate (LIBOR), reference rate reform refers to a global initiative to identify alternative reference rates that are more observable or transaction-based and less susceptible to manipulation. ASU 2020-04 is effective for all entities as of March 12, 2020 through December 31, 2022. Once elected for a topic or an industry subtopic, the amendments in ASU 2020-04 must be applied prospectively for all eligible contract modifications for that topic or industry subtopic. Woodward has assessed the accounting and financial impact of ASU 2020-04, and concluded no financial assets or liabilities, including those involved in hedging relationships, will be materially impacted as a result of the cessation of LIBOR. Accordingly, Woodward will not elect to apply the amendments in ASU 2020-04 for contract modifications.

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes." ASU 2019-12 amends ASC 740 to simplify the accounting for income taxes by removing certain exceptions for investments, intraperiod allocations and interim calculations, and adding guidance to reduce complexity in the accounting standard under the FASB's simplification initiative. ASU 2019-12 is effective for public entities for fiscal years beginning after December 15, 2020 (fiscal year 2022 for Woodward). Upon adoption, the amendments in ASU 2019-12 should be applied on a prospective basis to all periods presented. Woodward elected to early adopt the new guidance effective January 1, 2021, which did not have a material effect on the Consolidated Financial Statements.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." ASU 2016-13 adds a current expected credit loss ("CECL") impairment model to U.S. GAAP that is based on expected losses rather than incurred losses. Modified retrospective adoption is required with any cumulative-effect adjustment recorded to retained earnings as of the beginning of the period of adoption. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019 (fiscal year 2021 for Woodward), including interim periods within the year of adoption. Woodward adopted ASU 2016-13, and all applicable amendments, on October 1, 2020 using the modified retrospective adoption method. Based on the nature of the Company's financial instruments included within the scope of this standard, the adoption did not have a material effect on the Consolidated Financial Statements. See details of the Company's allowance for uncollectible amounts and change in expected credit losses for billed receivables and unbilled receivables (contract assets) at Note 3, *Revenue*.

Note 3. Revenue

Sales of Products

Woodward primarily generates revenue through the manufacture and sale of engineered aerospace and industrial products, including revenue derived from MRO performance obligations performed on products originally manufactured by Woodward and subsequently returned by OEM or other end-user customers. The majority of Woodward's costs incurred to satisfy MRO performance obligations are related to replacing and/or refurbishing component parts of the returned products to restore the units back to a condition generally comparable to that of the unit upon its initial sale to an OEM customer. Therefore, Woodward considers almost all of its revenue to be derived from product sales, including those related to MRO.

	Year Ended September 30,		
	2022	2021	2020
Manufactured products	84%	86%	86%
MRO	14%	13%	12%
Services	2%	1%	2%

Point in time and over time revenue recognition

The amount of revenue recognized as point in time or over time follows:

	For the Year Ended September 30,								
	2022			2021			2020		
	Aerospace	Industrial	Consolidated	Aerospace	Industrial	Consolidated	Aerospace	Industrial	Consolidated
Point in time	\$ 593,233	\$ 509,737	\$ 1,102,970	\$ 481,422	\$ 527,233	\$ 1,008,655	\$ 590,817	\$ 592,157	\$ 1,182,974
Over time	926,089	353,731	1,279,820	922,695	314,482	1,237,177	1,000,146	312,545	1,312,691
Total net sales	<u>\$ 1,519,322</u>	<u>\$ 863,468</u>	<u>\$ 2,382,790</u>	<u>\$ 1,404,117</u>	<u>\$ 841,715</u>	<u>\$ 2,245,832</u>	<u>\$ 1,590,963</u>	<u>\$ 904,702</u>	<u>\$ 2,495,665</u>

Material Rights and Costs to Fulfill a Contract

Amounts recognized related to changes in estimated total lifetime sales for material rights and costs to fulfill contracts with customers follows:

	Year Ended September 30,		
	2022	2021	2020
Revenue	\$ 1,514	\$ 2,671	\$ 6,784
Cost of goods sold	667	1,961	6,638

Amounts recognized related to amortization of costs to fulfill contracts and contract liabilities, which were not related to changes in estimate, follows:

	Year Ended September 30,		
	2022	2021	2020
Revenue	\$ 4,107	\$ 4,455	\$ 1,664
Cost of goods sold	3,077	3,466	1,241

As of September 30, 2022, "Other assets" on the Consolidated Balance Sheets included \$167,610 of capitalized costs to fulfill contracts with customers, compared to \$152,885 as of September 30, 2021.

Accounts Receivable and Contract assets

Customer receivables include amounts billed and currently due from customers as well as unbilled amounts (contract assets) and are included in "Accounts receivable" in Woodward's Consolidated Balance Sheets. Amounts are billed in accordance with contractual terms, which are generally tied to shipment of the products to the customer, or as work progresses in accordance with contractual terms. Billed accounts receivable are typically due within 60 days. Woodward's contracts with customers generally have no financing components.

Accounts receivable consisted of the following:

	September 30, 2022	September 30, 2021
Billed receivables		
Trade accounts receivable	\$ 359,364	\$ 298,951
Other (Chinese financial institutions)	9,405	23,168
Total billed receivables	368,769	322,119
Current unbilled receivables (contract assets)	245,117	204,596
Total accounts receivable	613,886	526,715
Less: Allowance for uncollectible amounts	(3,922)	(3,664)
Total accounts receivable, net	<u>\$ 609,964</u>	<u>\$ 523,051</u>

As of September 30, 2022, “Other assets” on the Consolidated Balance Sheets includes \$6,649 of unbilled receivables not expected to be invoiced and collected within a period of twelve months, compared to \$9,424 as of September 30, 2021. Unbilled receivables not expected to be invoiced and collected within a period of twelve months are primarily attributable to customer delays for deliveries on firm orders in the Aerospace segment due to global supply chain and labor disruptions.

Billed and unbilled accounts receivable from the U.S. Government were less than 10% of total billed and unbilled accounts receivable at September 30, 2022 and September 30, 2021.

The allowance for uncollectible amounts and change in expected credit losses for trade accounts receivable and unbilled receivables (contract assets) consisted of the following:

	Year Ended September 30,		
	2022	2021	2020
Balance, beginning	\$ 3,664	\$ 8,359	\$ 8,936
Charged to costs and expenses, or sales allowance	1,866	2,382	4,735
Deductions	(1,587)	(7,255)	(5,342)
Other (deductions)/additions ¹	(21)	178	30
Balance, ending	<u>\$ 3,922</u>	<u>\$ 3,664</u>	<u>\$ 8,359</u>

(1) Includes effects of foreign exchange rate changes during the period.

Woodward adopted ASU 2016-13 on October 1, 2021. The change in the allowance for uncollectible amounts during the fiscal year ended September 30, 2020, is based on incurred losses rather than expected credit losses per the CECL impairment model.

Contract liabilities

Contract liabilities consisted of the following:

	September 30, 2022		September 30, 2021	
	Current	Noncurrent	Current	Noncurrent
Deferred revenue from material rights from GE joint venture formation	\$ 5,754	\$ 234,516	\$ 4,771	\$ 234,237
Deferred revenue from advanced invoicing and/or prepayments from customers	4,120	38	4,192	290
Liability related to customer supplied inventory	12,442	—	14,169	—
Deferred revenue from material rights related to engineering and development funding	8,347	161,791	6,395	151,797
Net contract liabilities	<u>\$ 30,663</u>	<u>\$ 396,345</u>	<u>\$ 29,527</u>	<u>\$ 386,324</u>

The current portion of contract liabilities is included in “Accrued liabilities” and the noncurrent portion is included in “Other liabilities” of Woodward’s Consolidated Balance Sheets. Woodward recognized revenue of \$22,313 in the year ended September 30, 2022 from contract liabilities balances recorded as of September 30, 2021, compared to \$19,925 in the year ended September 30, 2021 from contract liabilities balances recorded as of September 30, 2020.

Woodward recognized revenue of \$65,702 for the fiscal year ended September 30, 2022, compared to \$71,517 for the fiscal year ended September 30, 2021 and \$79,569 for the fiscal year ended September 30, 2020, related to noncash consideration received from customers. The Aerospace segment recognized \$63,358 for the fiscal year ended September 30, 2022, compared to \$69,195 for the fiscal year ended September 30, 2021 and \$78,179 for the fiscal year ended September 30, 2020, while the Industrial segment recognized \$2,343 for the fiscal year ended September 30, 2022 compared to \$2,322 for the fiscal year ended September 30, 2021 and \$1,390 for the fiscal year ended September 30, 2020.

Remaining performance obligations

Remaining performance obligations related to the aggregate amount of the total contract transaction price of firm orders for which the performance obligation has not yet been recognized in revenue as of September 30, 2022 was \$1,558,588, compared to \$1,283,311 as of September 30, 2021, the majority of which in both periods relate to Woodward's Aerospace segment. Woodward expects to recognize almost all of these remaining performance obligations within two years after September 30, 2022.

Remaining performance obligations related to material rights that have not yet been recognized in revenue as of September 30, 2022 was \$448,370, of which \$12,718 is expected to be recognized in fiscal year 2023, and the balance is expected to be recognized thereafter. Woodward expects to recognize revenue from performance obligations related to material rights over the life of the underlying programs, which may be as long as forty years.

Disaggregation of Revenue

Woodward designs, produces and services reliable, efficient, low-emission, and high-performance energy control products for diverse applications in markets throughout the world. Woodward reports financial results for each of its Aerospace and Industrial reportable segments. Woodward further disaggregates its revenue from contracts with customers by primary market and by geographical area as Woodward believes this best depicts how the nature, amount, timing and uncertainty of its revenue and cash flows are affected by economic factors.

Revenue by primary market for the Aerospace reportable segment was as follows:

	Year Ended September 30,		
	2022	2021	2020
Commercial OEM	\$ 499,438	\$ 386,543	\$ 434,306
Commercial aftermarket	420,881	306,547	399,843
Defense OEM	422,016	509,815	526,264
Defense aftermarket	176,987	201,212	230,550
Total Aerospace segment net sales	<u>\$ 1,519,322</u>	<u>\$ 1,404,117</u>	<u>\$ 1,590,963</u>

Revenue by primary market for the Industrial reportable segment was as follows:

	Year Ended September 30,		
	2022	2021	2020
Reciprocating engines	\$ 636,866	\$ 639,946	\$ 632,555
Industrial turbines	226,602	201,769	222,366
Renewables ¹	—	—	49,781
Total Industrial segment net sales	<u>\$ 863,468</u>	<u>\$ 841,715</u>	<u>\$ 904,702</u>

(1) Sales in the renewables market were discontinued as of May 1, 2020 following the closing of the divestiture of the disposal group (see Note 10, *Acquisitions and Divestitures*).

The customers who account for approximately 10% or more of net sales of each of Woodward's reportable segments are as follows:

	For the Year Ended September 30,	
	2022	2021
Aerospace	Raytheon Technologies, The Boeing Company, GE	The Boeing Company, Raytheon Technologies, GE
Industrial	Rolls-Royce PLC, Wärtsilä, Caterpillar	Rolls-Royce PLC, Weichai Westport, GE

Net sales by geographic area, as determined based on the location of the customer, were as follows:

	Year Ended September 30,								
	2022			2021			2020		
	Aerospace	Industrial	Consolidated	Aerospace	Industrial	Consolidated	Aerospace	Industrial	Consolidated
United States	\$1,105,860	\$ 205,740	\$ 1,311,600	\$1,103,373	\$ 174,750	\$ 1,278,123	\$1,231,004	\$ 195,450	\$ 1,426,454
Germany	57,840	174,216	232,056	31,005	152,691	183,696	52,635	181,330	233,965
Europe, excluding Germany									
China	128,719	234,795	363,514	95,984	195,957	291,941	122,938	214,033	336,971
Other countries	49,407	86,972	136,379	35,286	178,983	214,269	38,359	171,526	209,885
Asia, excluding China	23,334	128,855	152,189	23,363	114,137	137,500	27,068	113,001	140,069
Total net sales	<u>\$1,519,322</u>	<u>\$ 863,468</u>	<u>\$ 2,382,790</u>	<u>\$1,404,117</u>	<u>\$ 841,715</u>	<u>\$ 2,245,832</u>	<u>\$1,590,963</u>	<u>\$ 904,702</u>	<u>\$ 2,495,665</u>

Note 4. Earnings per share

Basic earnings per share is computed by dividing net earnings available to common stockholders by the weighted-average number of shares of common stock outstanding for the period.

Diluted earnings per share reflects the weighted-average number of shares outstanding after consideration of the dilutive effect of stock options and restricted stock.

The following is a reconciliation of net earnings to basic earnings per share and diluted earnings per share:

	Year Ended September 30,		
	2022	2021	2020
Numerator:			
Net earnings	\$ 171,698	\$ 208,649	\$ 240,395
Denominator:			
Basic shares outstanding	61,517	63,287	62,267
Dilutive effect of stock options and restricted stock units	1,737	2,268	1,942
Diluted shares outstanding	63,254	65,555	64,209
Income per common share:			
Basic earnings per share	\$ 2.79	\$ 3.30	\$ 3.86
Diluted earnings per share	\$ 2.71	\$ 3.18	\$ 3.74

The following stock option grants were outstanding during the fiscal years ended September 30, 2022, 2021 and 2020, but were excluded from the computation of diluted earnings per share because their inclusion would have been anti-dilutive.

	Year Ended September 30,		
	2022	2021	2020
Options	1,019	41	660
Weighted-average option price	\$ 110.71	\$ 116.38	\$ 104.45

The weighted-average shares of common stock outstanding for basic and diluted earnings per share included the weighted-average treasury stock shares held for deferred compensation obligations of the following:

	Year Ended September 30,		
	2022	2021	2020
Weighted-average treasury stock shares held for deferred compensation obligations	151	186	211

Note 5. Leases

Woodward is primarily a lessee in lease arrangements but has some embedded lessor arrangements.

Lessee arrangements

Woodward has entered into operating leases for certain facilities and equipment with terms in excess of one year under agreements that expire at various dates. Some leases require the payment of property taxes, insurance, maintenance costs, or other similar costs in addition to rental payments. Woodward has also entered into finance leases for equipment with terms in excess of one year under agreements that expire at various dates.

None of Woodward's lease agreements contain significant residual value guarantees, restrictions, or covenants. As of September 30, 2022, Woodward has not entered into any lease arrangements that have not yet commenced but would create significant rights and obligations. Woodward does not have any lease transactions between related parties.

Lease-related assets and liabilities follows:

	Classification on the Consolidated Balance Sheets	September 30, 2022	September 30, 2021
Assets:			
Operating lease assets	Other assets	\$ 25,144	\$ 19,370
Finance lease assets	Property, plant and equipment, net	5,474	781
Total lease assets		<u>30,618</u>	<u>20,151</u>
Current liabilities:			
Operating lease liabilities	Accrued liabilities	4,587	5,260
Finance lease liabilities	Current portion of long-term debt	856	728
Noncurrent liabilities:			
Operating lease liabilities	Other liabilities	21,443	14,770
Finance lease liabilities	Long-term debt, less current portion	4,405	475
Total lease liabilities		<u>\$ 31,291</u>	<u>\$ 21,233</u>

In the first quarter of fiscal year 2020, Woodward determined that the approved plan to divest of the renewable power systems business and other related businesses (as described more fully in Note 10, *Acquisitions and Divestitures*, and defined therein as the "disposal group") represented a triggering event requiring the long-lived assets attributable to the disposal group be assessed for impairment. Given the facts and circumstances at that time, Woodward determined that the remaining value of the ROU assets of the disposal group were not recoverable, and a \$639 non-cash impairment charge was recorded during the fiscal year ended September 30, 2020.

Supplemental lease-related information follows:

	September 30, 2022	September 30, 2021
Weighted average remaining lease term		
Operating leases	8.3 years	4.3 years
Finance leases	9.7 years	1.7 years
Weighted average discount rate		
Operating leases	3.6%	3.2%
Finance leases	3.4%	2.8%

Lease-related expenses were as follows:

	Year Ended September 30,		
	2022	2021	2020
Operating lease expense	\$ 6,335	\$ 6,559	\$ 6,164
Amortization of financing lease assets	454	425	476
Interest on financing lease liabilities	51	58	87
Variable lease expense	929	1,495	1,101
Short-term lease expense	190	283	466
Sublease income ¹	(192)	(680)	(697)
Total lease expense	<u>\$ 7,767</u>	<u>\$ 8,140</u>	<u>\$ 7,597</u>

(1) Relates to two separate subleases Woodward has entered into for a leased manufacturing building in Niles, Illinois. During fiscal year 2022, these subleases were terminated.

Lease-related supplemental cash flow information was as follows:

	Year Ended September 30,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows for operating leases	\$ 5,303	\$ 5,707	\$ 5,622
Operating cash flows for finance leases	51	58	87
Financing cash flows for finance leases	796	1,639	1,590
Right-of-use assets obtained in exchange for recorded lease obligations:			
Operating leases	14,678	6,871	6,501
Finance leases	4,046	35	1,244

Maturities of lease liabilities were as follows:

Year Ending September 30:	Operating Leases	Finance Leases
2023	\$ 5,383	\$ 1,032
2024	4,695	1,002
2025	3,768	870
2026	3,156	870
2027	2,592	868
Thereafter	10,959	1,919
Total lease payments	30,553	6,561
Less: imputed interest	(4,523)	(1,300)
Total lease obligations	\$ 26,030	\$ 5,261

Lessor arrangements

Woodward has assessed its manufacturing contracts and concluded that certain of the contracts for the manufacture of customer products met the criteria to be considered a leasing arrangement (“embedded leases”) with Woodward as the lessor. The specific manufacturing contracts that met the criteria were those that utilized Woodward property, plant and equipment and which is substantially (more than 90%) dedicated to the manufacturing of the product(s) for a single customer. Woodward has dedicated manufacturing lines with four of its customers representing embedded leases, all of which qualified as operating leases with undefined quantities of future customer purchase commitments.

Although Woodward expects to allocate some portion of future net sales to these customers to embedded lessor arrangements, it cannot provide expected future undiscounted lease payments from property, plant and equipment leased to customers as of September 30, 2022. If, in the future, customers reduce purchases of related products from Woodward, the Company believes it will derive additional value from the underlying equipment by repurposing its use to support other customer arrangements.

Woodward recognizes revenue from the embedded lessor arrangements based on the value of the underlying dedicated property, plant, and equipment. There are no fixed payments that the customers under the embedded lessor arrangements are obligated to pay. Therefore, all the customer payments under the embedded lessor arrangements are considered variable with the associated leasing revenue recognized when the revenue from underlying product sale related to variable lease payment is recognized. Revenue from contracts with customers that included embedded operating leases, which is included in “Net sales” at the Consolidated Statements of Earnings, was \$5,528 for the fiscal year ended September 30, 2022, compared to \$6,305 for the fiscal year ended September 30, 2021.

The carrying amount of property, plant and equipment leased to others through embedded leasing arrangements, included in “Property, plant and equipment, net” at the Consolidated Balance Sheets, follows:

	September 30, 2022	September 30, 2021
Property, plant and equipment leased to others through embedded leasing arrangements	\$ 44,912	\$ 93,732
Less accumulated depreciation	(25,508)	(35,733)
Property, plant and equipment leased to others through embedded leasing arrangements, net	\$ 19,404	\$ 57,999

Note 6. Joint venture

In fiscal year 2016, Woodward and GE, acting through its GE Aviation business unit, consummated the formation of a strategic joint venture between Woodward and GE (the “JV”) to develop, manufacture and support fuel systems for specified existing and all future GE commercial aircraft engines that produce thrust in excess of fifty thousand pounds.

Unamortized deferred revenue from material rights in connection with the JV formation included:

	September 30, 2022	September 30, 2021
Accrued liabilities	\$ 5,754	\$ 4,771
Other liabilities	234,516	234,237

Amortization of the deferred revenue (material right) recognized as an increase to sales was \$3,633 for the fiscal year ended September 30, 2022, \$4,191 for the fiscal year ended September 30, 2021, and \$5,493 for the fiscal year ended September 30, 2020.

Woodward and GE jointly manage the JV and any significant decisions and/or actions of the JV require the mutual consent of both parties. Neither Woodward nor GE has a controlling financial interest in the JV, but both Woodward and GE do have the ability to significantly influence the operating and financial decisions of the JV. Therefore, Woodward is accounting for its 50% ownership interest in the JV using the equity method of accounting. The JV is a related party to Woodward. In addition, GE will continue to pay contingent consideration to Woodward consisting of fifteen annual payments of \$4,894 each, which began on January 4, 2017, subject to certain claw-back conditions. Woodward received its fifth and six annual payments of \$4,894 during the three-months ended March 31, 2021 and March 31, 2022, respectively, which were recorded as deferred income and included in Net cash provided by operating activities on the Consolidated Statements of Cash Flows. Neither Woodward nor GE contributed any tangible assets to the JV.

Other income related to Woodward’s equity interest in the earnings of the JV was as follows:

	For the Year Ended September 30,		
	2022	2021	2020
Other income	\$ 18,193	\$ 11,366	\$ 15,580

Cash distributions to Woodward from the JV, recognized in Net cash provided by operating activities on the Consolidated Statements of Cash Flows, from the JV include:

	Year Ended September 30,		
	2022	2021	2020
Cash distributions	\$ 17,000	\$ 13,500	\$ 14,000

Net sales to the JV were as follows:

	For the Year Ended September 30,		
	2022	2021	2020
Net sales ¹	\$ 28,100	\$ 35,957	\$ 48,222

(1) Net sales include a reduction of \$28,054 for the fiscal year ended September 30, 2022, \$21,101 for the fiscal year ended September 30, 2021, and \$23,904 for the fiscal year ended September 30, 2020 related to royalties owed to the JV by Woodward on sales by Woodward directly to third party aftermarket customers.

The Consolidated Balance Sheets include “Accounts receivable” related to amounts the JV owed Woodward, “Accounts payable” related to amounts Woodward owed the JV, and “Other assets” related to Woodward’s net investment in the JV, as follows:

	September 30, 2022	September 30, 2021
Accounts receivable	\$ 4,172	\$ 3,639
Accounts payable	4,069	2,823
Other assets	8,181	6,988

Woodward records in “Other liabilities” amounts invoiced to the JV for support of the JV’s engineering and development projects as an increase to contract liabilities, and records in “Other assets” related incurred expenditures as costs to fulfill a contract. Woodward’s contract liabilities classified as “Other liabilities” included amounts invoiced to the JV as of September 30, 2022 of \$79,257 compared to \$73,657 as of fiscal year ended September 30, 2021. Woodward’s costs to fulfill a contract included in “Other assets” related to JV activities were \$79,257 as of September 30, 2022 and \$73,657 as of fiscal year ended September 30, 2021. In the fiscal year ended September 30, 2022, Woodward recognized a \$1,146 reduction in the contract liability in “Other liabilities” and a \$1,146 reduction in costs to fulfill a contract in “Other assets” related to the recognition of revenue and cost of goods sold that was included in the contract liability and contract asset, respectively, at the beginning of the fiscal year. In the fiscal year ended September 30, 2021, Woodward recognized a \$2,072 reduction in the contract liability in “Other liabilities” and a \$2,072 reduction in costs to fulfill a contract in “Other assets” related to the termination of a JV engineering and development project previously recognized as a material right. No reductions in costs to fulfill a contract or contract liabilities were recorded during the fiscal years ended September 30, 2022 and September 30, 2021 as a result of the termination of joint venture engineering and development projects.

Note 7. Financial instruments and fair value measurements

The table below presents information about Woodward’s financial assets and liabilities that are measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation techniques Woodward utilized to determine such fair value.

	At September 30, 2022				At September 30, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets:								
Investments in term deposits with foreign banks	\$37,605	—	—	\$37,605	\$13,187	—	—	\$13,187
Equity securities	22,800	—	—	22,800	29,714	—	—	29,714
Cross currency interest rate swaps	—	38,168	—	38,168	—	—	—	—
Total financial assets	\$60,405	\$38,168	\$ —	\$98,573	\$42,901	\$ —	\$ —	\$42,901
Financial liabilities:								
Cross currency interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ —	\$50,185	\$ —	\$50,185
Total financial liabilities	\$ —	\$ —	\$ —	\$ —	\$ —	\$50,185	\$ —	\$50,185

Investments in term deposits with foreign banks: Woodward’s foreign subsidiaries sometimes invest excess cash in various highly liquid financial instruments that Woodward believes are with creditworthy financial institutions. Such investments are reported in “Cash and cash equivalents” at fair value, with realized gains from interest income recognized in earnings. The carrying value of Woodward’s investments in term deposits with foreign banks are considered equal to the fair value given the highly liquid nature of the investments.

Equity securities: Woodward holds marketable equity securities, through investments in various mutual funds, related to its deferred compensation program. Based on Woodward’s intentions regarding these instruments, marketable equity securities are classified as trading securities. The trading securities are reported at fair value, with realized gains and losses recognized in “Other (income) expense, net” on the Consolidated Statements of Earnings. The trading securities are included in “Other assets” in the Consolidated Balance Sheets. The fair values of Woodward’s trading securities are based on the quoted market prices for the net asset value of the various mutual funds.

Cross-currency interest rate swaps: Woodward holds cross currency interest rate swaps, which are accounted for at fair value. The swaps in an asset position are included in “Other current assets” and “Other assets,” and swaps in a liability position are included in “Accrued liabilities” and “Other liabilities” in the Consolidated Balance Sheets. The fair values of Woodward’s cross currency interest rate swaps are determined using a market approach that is based on observable inputs other than quoted market prices, including contract terms, interest rates, currency rates, and other market factors.

Cash, trade accounts receivable, accounts payable, and short-term borrowings are not remeasured to fair value, as the carrying cost of each approximates its respective fair value.

The estimated fair values and carrying costs of other financial instruments that are not required to be remeasured at fair value in the Consolidated Balance Sheets were as follows:

		<u>At September 30, 2022</u>		<u>At September 30, 2021</u>	
	<u>Fair Value Hierarchy Level</u>	<u>Estimated Fair Value</u>	<u>Carrying Cost</u>	<u>Estimated Fair Value</u>	<u>Carrying Cost</u>
Assets:					
Notes receivable from municipalities	2	\$ 9,010	\$ 8,992	\$ 11,413	\$ 10,193
Note receivable from sale of disposal group	2	—	—	6,288	6,061
Investments in short-term time deposits	2	8,026	7,893	11,587	11,580
Liabilities:					
Long-term debt	2	\$ 646,696	\$ 712,054	\$ 812,866	\$ 736,706

In connection with certain economic incentives related to Woodward's development of a second campus in the greater-Rockford, Illinois area for its Aerospace segment and Woodward's development of a new campus at its corporate headquarters in Fort Collins, Colorado, Woodward received long-term notes from municipalities within the states of Illinois and Colorado. The fair value of the long-term notes was estimated based on a model that discounted future principal and interest payments received at an interest rate available to the Company at the end of the period for similarly rated municipal notes of similar maturity, which is a level 2 input as defined by the U.S. GAAP fair value hierarchy. The interest rates used to estimate the fair value of the long-term notes were 3.5% at September 30, 2022 and 1.3% at September 30, 2021.

In connection with the sale of the disposal group (See Note 10, *Acquisitions and Divestitures*), Woodward received a promissory note from the buyer for deferral of a portion of the purchase price. The full amount of the promissory note was received during the third quarter of fiscal year 2022.

From time to time, certain of Woodward's foreign subsidiaries will invest excess cash in short-term time deposits with a fixed maturity date of longer than three months but less than one year from the date of the deposit. Woodward believes that the investments are with creditworthy financial institutions. The fair value of the investments in short-term time deposits was estimated based on a model that discounted future principal and interest payments to be received at an interest rate available to the foreign subsidiary entering into the investment for similar short-term time deposits of similar maturity. This was determined to be a level 2 input as defined by the U.S. GAAP fair value hierarchy. The interest rates used to estimate the fair value of the short-term time deposits was 6.1% at September 30, 2022 and 3.3% at September 30, 2021.

The fair value of long-term debt was estimated based on a model that discounted future principal and interest payments at interest rates available to the Company at the end of the period for similar debt of the same maturity, which is a level 2 input as defined by the U.S. GAAP fair value hierarchy. The weighted-average interest rates used to estimate the fair value of long-term debt were 5.6% at September 30, 2022 and 1.6% at September 30, 2021.

Note 8. Derivative instruments and hedging activities

Derivative instruments not designated or qualifying as hedging instruments

In May 2018, Woodward entered into cross currency interest rate swap agreements that synthetically converted \$167,420 of floating-rate debt under Woodward's then existing revolving credit agreement to Euro denominated floating-rate debt in conjunction with the L'Orange acquisition (the "Floating-Rate Cross Currency Swap"). Also, in May 2018, Woodward entered into cross currency interest rate swap agreements that synthetically converted an aggregate principal amount of \$400,000 of fixed-rate debt associated with the 2018 Note Purchase Agreement (as defined in Note 15, *Credit facilities short-term borrowings and long-term debt*) to Euro denominated fixed-rate debt (the "Fixed-Rate Cross Currency Swaps"). The cross-currency interest rate swaps, which effectively reduce the interest rate on the underlying fixed and floating-rate debt under the 2018 Notes (as defined in Note 15, *Credit facilities short-term borrowings and long-term debt*) and Woodward's then existing revolving credit agreement, respectively, is recorded as a reduction to "Interest expense" in Woodward's Consolidated Statements of Earnings.

In May 2020, as a result of the COVID-19 pandemic and uncertainties in future cash flows, Woodward terminated the Floating-Rate Cross-Currency Swap and Fixed-Rate Cross-Currency Swaps. At the date of settlement, the total notional value of the Floating-Rate Cross-Currency Swap and Fixed-Rate Cross-Currency Swaps was \$108,823 and \$400,000, respectively. Woodward received net cash proceeds of \$59,571, which includes \$58,191 related to the fair value of the

derivative assets and \$4,380 of net accrued interest, less payment of \$3,000 for fees to terminate the swap agreements. The proceeds received for the fair value of the instruments is recorded in “Other”, while net accrued interest is recorded in “Other” and “Accrued liabilities”, respectively, in cash flows provided by operating activities of Woodward’s Consolidated Statements of Cash Flows. The fees to terminate the swap agreements were expensed as incurred and presented in the line item “Selling, general and administrative” expenses in Woodward’s Consolidated Statements of Earnings.

Upon termination and settlement of the instruments, Woodward entered into a new floating-rate cross-currency interest rate swap (the “2020 Floating-Rate Cross-Currency Swap”), with a notional value of \$45,000, and five fixed-rate cross-currency interest rate swap agreements (the “2020 Fixed-Rate Cross-Currency Swaps”), with an aggregate notional value of \$400,000, which effectively reduce the interest rates on the underlying fixed and floating-rate debt under the 2018 Notes and Woodward’s existing revolving credit agreement, respectively. The net interest income of the cross-currency interest rate swaps is recorded as a reduction to “Interest expense” in Woodward’s Consolidated Statements of Earnings. As of September 30, 2022, the total notional value of the 2020 Floating-Rate Cross-Currency Swap and 2020 Fixed-Rate Cross-Currency Swaps was \$11,250 and \$400,000, respectively. See Note 7, *Financial Instruments and fair value measurements*, for the related fair value of the derivative instruments as of September 30, 2022.

Derivatives instruments in fair value hedging relationships

Concurrent with the entry into the Floating-Rate Cross Currency Swap in May 2018, a corresponding Euro denominated intercompany loan receivable with identical terms and notional amount as the underlying Euro denominated floating-rate debt, with a reciprocal cross currency interest rate swap, was entered into by Woodward Barbados Financing SRL (“Barbados”), a wholly owned subsidiary of Woodward, and is designated as a fair value hedge under the criteria prescribed in ASC Topic 815, *Derivatives and Hedging* (“ASC 815”). The objective of the derivative instrument is to hedge against the foreign currency exchange risk attributable to the spot remeasurement of the Euro denominated intercompany loan.

In May 2020, Woodward settled the Euro denominated intercompany loan receivable with identical terms and notional value to the Floating-Rate Cross-Currency Swap and reciprocal intercompany cross-currency interest rate swap. The fair value hedge designated on these instruments was discontinued at the date of settlement and resulted in a reclassification of \$1,719 of previously unrecognized losses from accumulated OCI into earnings. The loss on discontinuation of the fair value hedging relationship is recognized in “Gain on cross-currency interest rate swaps, net” in Woodward’s Consolidated Statements of Earnings. Concurrent with settlement of the Floating-Rate Cross-Currency Swap and discontinuation of the previous fair value hedging relationship, a US dollar denominated intercompany loan payable with identical terms and notional value as the 2020 Floating-Rate Cross-Currency Swap, together with a reciprocal intercompany floating-rate cross-currency interest rate swap, was entered into by Woodward Barbados Euro Financing SRL (“Euro Barbados”), a wholly owned subsidiary of Woodward. The US dollar denominated intercompany loan and reciprocal intercompany floating-rate cross-currency interest rate swap is designated as a fair value hedge under the criteria prescribed in ASC 815. The objective of the derivative instrument is to hedge against the foreign currency exchange risk attributable to the spot remeasurement of the US dollar denominated intercompany loan, as Euro Barbados maintains a Euro functional currency.

For each floating-rate intercompany cross-currency interest rate swap, only the change in the fair value related to the cross-currency basis spread, or excluded component, of the derivative instrument is recognized in accumulated OCI. The remaining change in the fair value of the derivative instrument is recognized in foreign currency transaction gain or loss included in “Selling, general and administrative costs” in Woodward’s Consolidated Statements of Earnings. The change in the fair value of the derivative instrument in foreign currency transaction gain or loss offsets the change in the spot remeasurement of the intercompany Euro and US dollar denominated loans. Hedge effectiveness is assessed based on the fair value changes of the derivative instrument, after excluding any fair value changes related to the cross-currency basis spread. The initial cost of the cross-currency basis spread is recorded in earnings each period through the swap accrual process. There are no credit-risk-related contingent features associated with the intercompany floating-rate cross-currency interest rate swap.

Derivative instruments in cash flow hedging relationships

In conjunction with the entry into the Fixed-Rate Cross Currency Swaps in May 2018, five corresponding intercompany loans receivable, with identical terms and amounts of each tranche of the underlying aggregate principal amount of \$400,000 of fixed-rate debt, and reciprocal cross currency interest rate swaps were entered into by Barbados, which are designated as cash flow hedges under the criteria prescribed in ASC 815. The objective of these derivative instruments is to hedge the risk of variability in cash flows attributable to the foreign currency exchange risk of cash flows for future principal and interest payments associated with the Euro denominated intercompany loans over a fifteen-year period.

In May 2020, Woodward settled the Euro denominated intercompany loans receivable with identical terms and notional value to the Fixed-Rate Cross-Currency Swaps and reciprocal cross-currency interest rate swaps. The cash flow hedges designated on these instruments were discontinued at the date of settlement and resulted in a reclassification of \$32,200 of previously unrecognized gains from accumulated OCI into earnings. The gain on discontinuation of the cash flow hedging relationships is recognized in “Gain on cross-currency interest rate swaps, net” in Woodward’s Consolidated Statements of Earnings. Concurrent with settlement of the Fixed-Rate Cross-Currency Swaps and the discontinuation of the previous cash flow hedging relationships, five corresponding US dollar intercompany loans payable, with identical terms and notional values of each tranche of the 2020 Fixed-Rate Cross-Currency Swaps, together with reciprocal fixed-rate intercompany cross-currency interest rate swaps were entered into by Euro Barbados, which are designated as cash flow hedges under the criteria prescribed in ASC 815. The objective of these derivative instruments is to hedge the risk of variability in cash flows attributable to the foreign currency exchange risk of cash flows for future principal and interest payments associated with the US dollar denominated intercompany loans over a thirteen-year period, as Euro Barbados maintains a Euro functional currency.

For each of the fixed-rate intercompany cross-currency interest rate swaps, changes in the fair values of the derivative instruments are recognized in accumulated OCI and reclassified to foreign currency transaction gain or loss included in “Selling, general and administrative costs” in Woodward’s Consolidated Statements of Earnings. Reclassifications out of accumulated OCI of the change in fair value occur each reporting period based upon changes in the spot rate remeasurement of the Euro and US dollar denominated intercompany loans, including associated interest. Hedge effectiveness is assessed based on the fair value changes of the derivative instruments and such hedges are deemed to be highly effective in offsetting exposure to variability in foreign exchange rates. There are no credit-risk-related contingent features associated with these fixed-rate cross-currency interest rate swaps.

Derivatives instruments in net investment hedging relationships

On September 23, 2016, Woodward and Woodward International Holding B.V., a wholly owned subsidiary of Woodward organized under the laws of The Netherlands (the “BV Subsidiary”), each entered into a note purchase agreement (the “2016 Note Purchase Agreement”) relating to the sale by Woodward and the BV Subsidiary of an aggregate principal amount of €160,000 of senior unsecured notes in a series of private placement transactions. Woodward issued €40,000 aggregate principal amount of Woodward’s Series M Senior Notes due September 23, 2026 (the “Series M Notes”). Woodward designated the Series M Notes as a hedge of a foreign currency exposure of Woodward’s net investment in its Euro denominated functional currency subsidiaries. Related to the Series M Notes, included in foreign currency translation adjustments within total comprehensive (losses) earnings are net foreign exchange gains of \$7,206 for the fiscal year ended September 30, 2022, compared to net foreign exchange gains of \$592 for the fiscal year ended September 30, 2021 and net foreign exchange losses of \$3,199 for the fiscal year ended September 30, 2020.

Impact of derivative instruments designated as qualifying hedging instruments

The following table discloses the amount of (income) expense recognized in earnings on derivative instruments designated as qualifying hedging instruments:

Derivatives in:	Location	Year Ended September 30,		
		2022	2021	2020
Cross-currency interest rate swap agreement designated as fair value hedges	Selling, general and administrative expenses	\$ (2,844)	\$ 23	\$ 4,592
Cross-currency interest rate swap agreements designated as cash flow hedges	Selling, general and administrative expenses	(66,036)	(3,725)	(3,190)
Treasury lock agreement designated as cash flow hedge	Interest expense	—	—	(72)
		<u>\$ (68,880)</u>	<u>\$ (3,702)</u>	<u>\$ 1,330</u>

The following table discloses the amount of (gain) loss recognized in accumulated OCI on derivative instruments designated as qualifying hedging instruments:

Derivatives in:	Location	Year Ended September 30,		
		2022	2021	2020
Cross-currency interest rate swap agreement designated as fair value hedges	Selling, general and administrative expenses	\$ (2,854)	\$ 60	\$ 4,832
Cross-currency interest rate swap agreements designated as cash flow hedges	Selling, general and administrative expenses	(86,194)	1,612	13,430
		<u>\$ (89,048)</u>	<u>\$ 1,672</u>	<u>\$ 18,262</u>

The following table discloses the amount of (gain) loss reclassified in accumulated OCI on derivative instruments designated as qualifying hedging instruments:

Derivatives in:	Location	Year Ended September 30,		
		2022	2021	2020
Cross-currency interest rate swap agreement designated as fair value hedges	Selling, general and administrative expenses	\$ (2,844)	\$ 23	\$ 5,396
Cross-currency interest rate swap agreements designated as cash flow hedges	Selling, general and administrative expenses	(66,036)	(3,725)	(3,190)
Treasury lock agreement designated as cash flow hedge	Interest expense	—	—	(72)
		<u>\$ (68,880)</u>	<u>\$ (3,702)</u>	<u>\$ 2,134</u>

The remaining unrecognized gains and losses in Woodward's Consolidated Balance Sheets associated with derivative instruments that were previously entered into by Woodward, which are classified in accumulated OCI were net losses of \$6,338 as of September 30, 2022 and \$26,506 as of September 30, 2021.

Note 9. Supplemental statement of cash flows information

	Year Ended September 30,		
	2022	2021	2020
Interest paid, net of amounts capitalized	\$ 27,435	\$ 27,574	\$ 27,148
Income taxes paid	29,560	38,949	94,088
Income tax refunds received	7,481	14,044	17,653
Non-cash activities:			
Purchases of property, plant and equipment on account	6,452	7,771	3,076
Impact of the adoption of ASC 842	—	—	255
Common shares issued from treasury to settle benefit obligations	17,132	14,900	14,748
Purchases of treasury stock on account	—	12,516	—

Note 10. Acquisitions and Divestitures

Acquisitions

On August 2, 2022, we entered into a series of Purchase Agreements with one of our Asia pacific channel partners, PM Control PLC (the "PM Agreements"). Pursuant to the PM Agreements, we agreed to acquire business assets and shares of stock of PM Control PLC and its affiliates (collectively, "PM Control"), for a total consideration (excluding cash acquired from the acquisition and including the settlement of pre-existing relationships) of \$22,299 (the "PM Acquisition"). The PM Acquisition closed on August 31, 2022 (the "PM Closing") and PM Control PLC became a wholly owned subsidiary of the Company.

ASC Topic 805, "Business Combinations" ("ASC 805"), provides a framework to account for acquisition transactions under U.S. GAAP. The purchase price of PM Control, prepared consistent with the required ASC 805 framework, is allocated as follows:

Cash paid to Sellers	\$ 22,890
Less acquired cash and restricted cash	(1,341)
Plus settlement of pre-existing relationships	750
Total purchase price	<u>\$ 22,299</u>

The allocation of the purchase price to the assets acquired and liabilities assumed was recorded as of the end of business on August 31, 2022 using the purchase method of accounting in accordance with ASC 805. Assets acquired and liabilities assumed in the transaction were recorded at their acquisition date fair values, while transaction costs associated with the acquisition were expensed as incurred. Woodward's allocation was based on an evaluation of the appropriate fair values and represents management's best estimate.

The following table summarizes, as of August 31, 2022, the estimated fair values of the assets acquired and liabilities assumed at the PM Closing.

Accounts receivable	\$ 4,334
Inventories	2,464
Other current assets	386
Property, plant, and equipment	2,488
Goodwill	8,526
Intangible assets	9,916
Total assets acquired	<u>28,114</u>
Other current liabilities	(2,688)
Deferred income tax liabilities	(1,842)
Other noncurrent liabilities	(1,285)
Total liabilities assumed	<u>(5,815)</u>
Net assets acquired	<u>\$ 22,299</u>

The preliminary purchase price allocation resulted in the recognition of \$8,526 of goodwill, which is expected to be non-deductible for tax purposes. The Company has included all the goodwill in its Industrial segment. The goodwill represents the estimated value of potential expansion with new customers, the opportunity to further develop sales opportunities with new customers, other synergies expected to be achieved through the integration of PM Control with Woodward's Industrial segment.

A summary of the intangible assets acquired, weighted-average useful lives, and amortization methods follows:

	Estimated Amounts	Weighted- Average Useful Life	Amortization Method
Intangible assets with finite lives:			
Customer relationships and contracts	\$ 8,332	11 years	Straight-line
Trade name	1,584	5 years	Straight-line
Total	<u>\$ 9,916</u>		

Future amortization expense associated with the acquired intangibles as of September 30, 2022, is expected to be \$1,074 for the next five years ended.

Due to the timing of the acquisition, we are still finalizing valuations of intangible assets and related tax impacts. The final determination of the fair value of assets and liabilities will be completed within the one-year measurement period as permitted by ASC 805.

We have not presented pro forma results because the PM Acquisition was not deemed significant at the date of PM Closing.

Divestitures

In the first quarter of fiscal year 2020, Woodward's board of directors ("the Board") approved a plan to divest Woodward's renewable power systems business, protective relays business, and other businesses within the Company's Industrial segment (collectively, the "disposal group").

Woodward determined that the approved plan to divest the disposal group represented a triggering event requiring (i) the net assets of the disposal group to be classified as held for sale and (ii) the long-lived assets attributable to the disposal group be assessed for impairment. Given the facts and circumstances at that time, Woodward determined that the value of the long-lived assets of the disposal group, including goodwill, intangible assets, ROU assets and property, plant, and equipment, were not recoverable and a \$22,900 non-cash impairment charge was recorded during the fiscal year ended September 30, 2020. The non-cash impairment charge removed all the goodwill, intangible assets, ROU assets and

property, plant, and equipment associated with the disposal group from the Consolidated Balance Sheets as of June 30, 2020.

Further, on the approval of the divestiture plan and subsequent marketing of the disposal group, Woodward determined that based on the current market conditions, the carrying value of the disposal group's remaining held for sale net assets exceeded the fair value. As a result, Woodward recorded a valuation allowance to reduce the carrying value of the net assets of the disposal group to their fair value. The non-cash impairment charge associated with the long-lived assets, and related valuation allowance for the other remaining net assets attributable to the disposal group, resulted in a total impairment charge of \$37,902.

In determining the amount by which the carrying value of the disposal group's remaining net assets exceeded their fair value, Woodward considered primarily the market value of the assets held for sale based on negotiations it had entered into with affiliates of the AURELIUS Group for the sale of the majority of the disposal group. On January 31, 2020, Woodward entered into a definitive agreement to sell the majority of the disposal group to affiliates of the AURELIUS Group for \$23,400, subject to customary purchase price adjustments, consisting of cash and a \$6,000 promissory note, which was due by April 30, 2022. The assets were primarily located in Germany, Poland and Bulgaria and accounted for approximately \$88,000 of sales in fiscal year 2019. The valuation reserve recorded to reduce the carrying value of the net assets held for sale was based on the estimated selling price pursuant to the definitive agreement reduced by the estimated working capital adjustments, transaction costs, and anticipated losses on assets held for sale that were not included in the disposal group to be sold to the AURELIUS Group.

The transactions consummating the sale of the disposal group were completed on April 30, 2020. The carrying value of the assets and liabilities sold were as follows:

	June 30, 2020
Assets:	
Accounts receivable	\$ 17,637
Inventories	441
Other current assets	796
Other assets	51
Total assets	18,925
Liabilities:	
Accounts payable	7,633
Accrued liabilities	2,998
Other liabilities	450
Total liabilities	\$ 11,081

Note 11. Inventories

	September 30, 2022	September 30, 2021
Raw materials	\$ 126,264	\$ 107,412
Work in progress	123,005	95,846
Component parts (1)	329,962	260,244
Finished goods	70,019	63,109
Customer supplied inventory	12,442	14,169
On-hand inventory for which control has transferred to the customer	(147,405)	(120,809)
	\$ 514,287	\$ 419,971

(1) Component parts include items that can be sold separately as finished goods or included in the manufacture of other products.

Note 12. Property, plant, and equipment

	September 30, 2022	September 30, 2021
Land and land improvements	\$ 84,057	\$ 86,051
Buildings and building improvements	555,387	553,693
Leasehold improvements	19,392	19,159
Machinery and production equipment	779,514	795,128
Computer equipment and software	122,670	124,444
Office furniture and equipment	39,749	39,987
Other	20,162	20,012
Construction in progress	58,789	38,317
	1,679,720	1,676,791
Less accumulated depreciation	(769,248)	(726,222)
Property, plant, and equipment, net	\$ 910,472	\$ 950,569

In the second quarter of fiscal year 2018, the Company announced its decision to relocate its Duarte, California operations to the Company's newly renovated Drake Campus in Fort Collins, Colorado, and in fiscal year 2019, finalized the relocation. On December 30, 2019, the Company closed on the sale of one of two parcels of real property at the Duarte facility and recorded a pre-tax gain on sale of assets of \$13,522. On August 11, 2020, the Company closed on the sale of the final parcel of real property at the Duarte facility and recorded a pre-tax gain on sale of assets of \$8,801.

In the first quarter of fiscal year 2020, Woodward determined that the approved plan to divest of the disposal group (see Note 10, *Acquisitions and Divestitures*) represented a triggering event requiring the long-lived assets attributable to the disposal group be assessed for impairment. Given the facts and circumstances at that time, Woodward determined that the remaining value of the plant, property and equipment of the disposal group was not recoverable, and a \$13,421 non-cash impairment charge was recorded during fiscal year 2020.

On September 25, 2020, the Company closed on the sale of its Loveland, Colorado campus with a concurrent purchase of a new property in Windsor, Colorado for future operations, resulting in recognition of a pre-tax gain on sale of assets of \$2,330.

For the fiscal years ended September 30, 2022, 2021, and 2020, Woodward had depreciation expense as follows:

	Year Ended September 30,		
	2022	2021	2020
Depreciation expense	\$ 83,019	\$ 87,631	\$ 91,700

Note 13. Goodwill

	September 30, 2021	Additions	Effects of Foreign Currency Translation		September 30, 2022
			Currency Translation	September 30, 2022	
Aerospace	\$ 455,423	\$ —	\$ —	\$ 455,423	
Industrial	349,910	8,526	(41,300)	317,136	
Consolidated	\$ 805,333	\$ 8,526	\$ (41,300)	\$ 772,559	

	September 30, 2020	Additions	Effects of Foreign Currency Translation		September 30, 2021
			Currency Translation	September 30, 2021	
Aerospace	\$ 455,423	\$ —	\$ —	\$ 455,423	
Industrial	352,829	—	(2,919)	349,910	
Consolidated	\$ 808,252	\$ —	\$ (2,919)	\$ 805,333	

On August 31, 2022, Woodward completed the acquisition of PM Control (see Note 10, *Acquisitions and Divestitures*), which resulted in the recognition of \$8,526 in goodwill in the Company's Industrial segment.

During the first quarter of fiscal year 2020, Woodward determined that the approved plan to divest of the disposal group represented a triggering event requiring the long-lived assets attributable to the disposal group be assessed for impairment. Given the facts and circumstances at the time, Woodward determined that the remaining value of the goodwill of the disposal group was not recoverable and an \$8,640 non-cash impairment charge was recorded during the fiscal year ended September 30, 2020.

Woodward tests goodwill for impairment at the reporting unit level on an annual basis or at any time there is an indication goodwill may be impaired, commonly referred to as triggering events. Woodward completed its annual goodwill impairment test as of July 31, 2022 during the quarter ended September 30, 2022. The fair value of each of Woodward's reporting units was determined using a discounted cash flow method. This method represents a level 3 input and incorporates various estimates and assumptions, the most significant being projected revenue growth rates, earnings margins, future tax rates, and the present value, based on an estimated weighted-average cost of capital (or the discount rate) and terminal growth rate, of forecasted cash flows. Management projects revenue growth rates, earnings margins and cash flows based on each reporting unit's current operational results, expected performance and operational strategies over a five-year period. These projections are adjusted to reflect current economic conditions and demand for certain products, and require considerable management judgment.

Forecasted cash flows used in the July 31, 2022 impairment test were discounted using weighted-average cost of capital assumptions ranging from 8.93% to 17.43%. The terminal values of the forecasted cash flows were calculated using the Gordon Growth Model and assumed an annual compound growth rate after five years of 3.95%. These inputs, which are unobservable in the market, represent management's best estimate of what market participants would use in determining the present value of the Company's forecasted cash flows. Changes in these estimates and assumptions can have a significant impact on the fair value of forecasted cash flows. Woodward evaluated the reasonableness of the reporting units' resulting fair values utilizing a market multiple method. The results of Woodward's goodwill impairment test performed as of July 31, 2022 did not indicate impairment of any of Woodward's reporting units.

Note 14. Intangible assets, net

	September 30, 2022			September 30, 2021		
	Gross Carrying Value	Accumulated Amortization	Net Carrying Amount	Gross Carrying Value	Accumulated Amortization	Net Carrying Amount
Intangible assets with finite lives:						
Customer relationships and contracts:						
Aerospace	\$ 281,683	\$ (223,565)	\$ 58,118	\$ 281,683	\$ (210,380)	\$ 71,303
Industrial	352,917	(66,812)	286,105	404,179	(56,515)	347,664
Total	<u>\$ 634,600</u>	<u>\$ (290,377)</u>	<u>\$ 344,223</u>	<u>\$ 685,862</u>	<u>\$ (266,895)</u>	<u>\$ 418,967</u>
Intellectual property:						
Aerospace	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Industrial	12,361	(12,361)	—	15,806	(15,806)	—
Total	<u>\$ 12,361</u>	<u>\$ (12,361)</u>	<u>\$ —</u>	<u>\$ 15,806</u>	<u>\$ (15,806)</u>	<u>\$ —</u>
Process technology:						
Aerospace	\$ 76,370	\$ (69,471)	\$ 6,899	\$ 76,370	\$ (67,177)	\$ 9,193
Industrial	78,524	(27,464)	51,060	90,008	(26,124)	63,884
Total	<u>\$ 154,894</u>	<u>\$ (96,935)</u>	<u>\$ 57,959</u>	<u>\$ 166,378</u>	<u>\$ (93,301)</u>	<u>\$ 73,077</u>
Other intangibles:						
Aerospace	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Industrial	1,560	—	1,560	—	—	—
Total	<u>\$ 1,560</u>	<u>\$ —</u>	<u>\$ 1,560</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Intangible asset with indefinite life:						
Trade name:						
Aerospace	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Industrial	56,838	—	56,838	67,245	—	67,245
Total	<u>\$ 56,838</u>	<u>\$ —</u>	<u>\$ 56,838</u>	<u>\$ 67,245</u>	<u>\$ —</u>	<u>\$ 67,245</u>
Total intangibles:						
Aerospace	\$ 358,053	\$ (293,036)	\$ 65,017	\$ 358,053	\$ (277,557)	\$ 80,496
Industrial	502,200	(106,637)	395,563	577,238	(98,445)	478,793
Consolidated Total	<u>\$ 860,253</u>	<u>\$ (399,673)</u>	<u>\$ 460,580</u>	<u>\$ 935,291</u>	<u>\$ (376,002)</u>	<u>\$ 559,289</u>

Indefinite lived intangible assets

The Woodward L'Orange trade name intangible asset is tested for impairment on an annual basis and more often if an event occurs or circumstances change that indicate the fair value of the Woodward L'Orange intangible asset may be below its carrying amount. The impairment test consists of comparing the fair value of the Woodward L'Orange trade name intangible asset, determined using discounted cash flows based on the relief from royalty method under the income approach, with its carrying amount. If the carrying amount of the Woodward L'Orange trade name intangible asset exceeds its fair value, an impairment loss would be recognized to reduce the carrying amount to its fair value. Woodward has not recognized any impairment charges for this asset.

During the fourth quarter, Woodward completed its annual impairment test of the Woodward L'Orange trade name intangible asset as of July 31, 2022 for the fiscal year ended September 30, 2022. The fair value of the Woodward L'Orange trade name intangible assets was determined using discounted cash flows based on the relief from royalty method under the income approach. This method represents a Level 3 input (based upon a fair value hierarchy established by U.S. GAAP) and incorporates various estimates and assumptions, the most significant being projected revenue growth rates, royalty rates, future tax rates and the present value, based on an estimated weighted-average cost of capital (or the discount rate) and terminal growth rate, of the forecasted cash flow. Management projects revenue growth rates and cash flows based on Woodward L'Orange's current operational results, expected performance and operational strategies over a five year period. These projections are adjusted to reflect current economic conditions and demand for certain products, and require considerable management judgment.

The forecasted cash flow used in the July 31, 2022 impairment test was discounted using weighted-average cost of capital assumption of 9.70%. The terminal value of the forecasted cash flow was calculated using the Gordon Growth Model and assumed an annual compound growth rate after five years of 3.95%. These inputs, which are unobservable in the market, represent management's best estimate of what market participants would use in determining the present value of the Company's forecasted cash flows. Changes in these estimates and assumptions can have a significant impact on the fair value of the forecasted cash flow. The results of impairment test performed as of July 31, 2022 indicated the estimated fair value of the Woodward L'Orange trade name intangible asset was in excess of its carrying value, and accordingly, no impairment existed.

Finite-lived intangible assets

During the first quarter of fiscal year 2020, Woodward determined that the approved plan to divest of the disposal group represented a triggering event requiring the long-lived assets attributable to the disposal group be assessed for impairment. Given the facts and circumstances at that time, Woodward determined that the remaining value of the intangible assets of the disposal group was not recoverable and a \$200 non-cash impairment charge was recorded for the fiscal year ended September 30, 2020.

Woodward recorded amortization expense associated with intangibles of the following:

	Year Ended September 30,		
	2022	2021	2020
Amortization expense	\$ 37,609	\$ 41,893	\$ 39,458

Future amortization expense associated with intangibles is expected to be:

Year Ending September 30:	
2023	\$ 35,885
2024	32,014
2025	26,852
2026	26,816
2027	26,750
Thereafter	255,425
	\$ 403,742

Note 15. Credit facilities, short-term borrowings and long-term debt

As of September 30, 2022, Woodward's short-term borrowings and availability under its various short-term credit facilities follows:

	Total availability	Outstanding letters of credit and guarantees	Outstanding borrowings	Remaining availability
Revolving credit facility	\$ 1,000,000	\$ (9,694)	\$ (66,800)	\$ 923,506
Foreign lines of credit and overdraft facilities	27,266	—	—	27,266
Foreign performance guarantee facilities	418	(196)	—	222
	\$ 1,027,684	\$ (9,890)	\$ (66,800)	\$ 950,994

Revolving credit facility

Woodward is a party to the Second Amended and Restated Revolving Credit Agreement (as defined below) with certain foreign subsidiaries party thereto from time to time as borrowers, a syndicate of lenders and Wells Fargo bank, National Association, as administrative agent. Pursuant to the Second Amended and Restated Revolving Credit Agreement, the lenders party thereto have agreed to extend revolving loans and letters of credit to Woodward and certain of its foreign subsidiaries in an aggregate amount not to exceed \$1,000,000. The Second Amended and Restated Revolving Credit Agreement provides for the option to increase available borrowings up to \$1,500,000, in the aggregate, subject to lenders' participation.

As of October 1, 2021, Woodward maintained a revolving credit agreement dated as of June 19, 2019 (the "2019 Revolving Credit Agreement"). On November 24, 2021, Woodward amended the 2019 Revolving Credit Agreement (such amended agreement, the "Amended and Restated Revolving Credit Agreement") to, among other things, (i) replace the Euro London Interbank Offered Rate ("LIBOR"), the British pound sterling LIBOR, and the Japanese yen LIBOR rates with the Euro Interbank Offered Rate ("Euribor"), Sterling Overnight Index Average ("SONIA"), and Tokyo Interbank Offered Rate ("TIBOR") rates, respectively, and (ii) replace the US LIBOR with the Secured Overnight Financing Rate ("SOFR"). The Amended and Restated Revolving Credit Agreement was set to mature on June 19, 2024. As of September 30, 2022, there were \$66,800 in principal amount of borrowings outstanding, at an effective interest rate of 4.24% under the Amended and Restated Revolving Credit Agreement. As of September 30, 2022, all of borrowings outstanding were classified as short-term borrowings based on Woodward's intent and ability to pay this amount in the next twelve months. As of September 30, 2021, there were no borrowings outstanding.

On October 21, 2022, Woodward amended and restated the Amended and Restated Credit Agreement (the "Second Amended and Restated Credit Agreement"). Effective as of October 21, 2022, the Second Amended and Restated Credit Agreement, extended the termination date of the revolving loan commitments of all the lenders from June 19, 2024 to October 21, 2027; removed the covenants restricting investments, acquisitions, dividends and distributions; and, subject to removal from the Company's existing note purchase agreements or the termination or maturation of such note purchase agreements, removed the minimum consolidated net worth covenant. Borrowings under the Amended and Restated Revolving Credit Agreement could, and borrowings under the Second Amended and Restated Revolving Credit Agreement can, be made by Woodward and certain of its foreign subsidiaries in U.S. dollars or in foreign currencies other than the U.S. dollar and generally bear interest at the new base rates listed above plus 0.875% to 1.75%.

The revolving credit agreements described in this Note 15 all contain (or contained, as applicable) certain covenants customary with such agreements, which are generally consistent with the covenants applicable to Woodward's long-term debt agreements, and contains customary events of default, including certain cross default provisions related to Woodward's other outstanding material debt arrangements, the occurrence of which would permit the lenders to accelerate the amounts due thereunder. In addition, the Revolving Credit Agreement includes the following financial covenants: (i) a maximum permitted leverage ratio of consolidated net debt to consolidated earnings before interest, taxes, depreciation, stock-based compensation, and amortization, plus any usual non-cash charges to the extent deducted in computing net income and transaction costs associated with permitted acquisitions (incurred within six-months of the permitted acquisition), minus any usual non-cash gains to the extent added in computing net income ("Leverage Ratio") for Woodward and its consolidated subsidiaries of 3.5 to 1.0, which ratio, subject to certain restrictions, may increase to 4.0 to 1.0 for each period of four consecutive quarters during which a permitted acquisition occurs, and (ii) a minimum consolidated net worth of \$1,156,000 plus (a) 50% of Woodward's positive net income for the prior fiscal year and (b) 50% of Woodward's net cash proceeds resulting from certain issuances of stock, subject to certain adjustments.

The obligations of Woodward and from time-to-time certain of Woodward's foreign subsidiaries, under the Second Amended and Restated Revolving Credit Agreement are guaranteed by Woodward MPC, Inc., Woodward HRT, Inc., or in case of obligations with any foreign subsidiaries of Woodward that are borrowers thereunder, Woodward L'Orange GmbH, each of which is a wholly owned subsidiary of Woodward.

Short-term borrowings

Woodward has other foreign lines of credit and foreign overdraft facilities at various financial institutions, which are generally reviewed annually for renewal and are subject to the usual terms and conditions applied by the financial institutions. Pursuant to the terms of the related facility agreements, Woodward's foreign performance guarantee facilities are limited in use to providing performance guarantees to third parties. There were no borrowings outstanding on Woodward's foreign lines of credit and foreign overdraft facilities as of both September 30, 2022 and September 30, 2021.

Long-term debt

	September 30, 2022	September 30, 2021
Series H notes – 4.03%, due November 15, 2023; unsecured	\$ 25,000	\$ 25,000
Series I notes – 4.18%, due November 15, 2025; unsecured	25,000	25,000
Series K notes – 4.03%, due November 15, 2023; unsecured	50,000	50,000
Series L notes – 4.18%, due November 15, 2025; unsecured	50,000	50,000
Series M notes – 1.12% due September 23, 2026; unsecured	39,198	46,376
Series N notes – 1.31% due September 23, 2028; unsecured	75,457	89,273
Series O notes – 1.57% due September 23, 2031; unsecured	42,138	49,854
Series P notes – 4.27% due May 30, 2025; unsecured	85,000	85,000
Series Q notes – 4.35% due May 30, 2027; unsecured	85,000	85,000
Series R notes – 4.41% due May 30, 2029; unsecured	75,000	75,000
Series S notes – 4.46% due May 30, 2030; unsecured	75,000	75,000
Series T notes – 4.61% due May 30, 2033; unsecured	80,000	80,000
Finance leases (Note 5)	5,261	1,203
Unamortized debt issuance costs	(1,438)	(1,856)
Total long-term debt	710,616	734,850
Less: Current portion of long-term debt	856	728
Long-term debt, less current portion	<u>\$ 709,760</u>	<u>\$ 734,122</u>

The Notes

On September 23, 2016, Woodward and the BV Subsidiary each entered into note purchase agreements (the "2016 Note Purchase Agreements") relating to the sale by Woodward and the BV Subsidiary of an aggregate principal amount of €160,000 of senior unsecured notes in a series of private placement transactions. Woodward issued €40,000 Series M Notes. The BV Subsidiary issued (a) €77,000 aggregate principal amount of the BV Subsidiary's Series N Senior Notes (the "Series N Notes") and (b) €43,000 aggregate principal amount of the BV Subsidiary's Series O Senior Notes (the "Series O Notes" and together with the Series M Notes and the Series N Notes, the "2016 Notes").

On May 31, 2018, Woodward entered into a note purchase agreement (the "2018 Note Purchase Agreement") relating to the sale by Woodward of an aggregate principal amount of \$400,000 of senior unsecured notes comprised of (a) \$85,000 aggregate principal amount of its Series P Senior Notes (the "Series P Notes"), (b) \$85,000 aggregate principal amount of its Series Q Senior Notes (the "Series Q Notes"), (c) \$75,000 aggregate principal amount of its Series R Senior Notes (the "Series R Notes"), (d) \$75,000 aggregate principal amount of its Series S Senior Notes (the "Series S Notes"), and (e) \$80,000 aggregate principal amount of its Series T Senior Notes (the "Series T Notes", and together with the Series P Notes, the Series Q Notes, the Series R Notes, and the Series S Notes, the "2018 Notes," and, together with the USD Notes and 2016 Notes, the "Notes"), in a series of private placement transactions.

In connection with the issuance of the 2018 Notes, the Company entered into cross currency swap transactions in respect of each tranche of the 2018 Notes, which effectively reduced the interest rates on the Series P Notes to 1.82% per annum, the Series Q Notes to 2.15% per annum, the Series R Notes to 2.42% per annum, the Series S Notes to 2.55% per annum and the Series T Notes to 2.90% per annum. Following the termination and settlement of the Floating-Rate Cross-Currency Swap and Fixed-Rate Cross-Currency Swaps entered into in 2018, the Company entered into the 2020 Floating-Rate Cross-Currency Swap and 2020 Fixed-Rate Cross-Currency Swaps, which effectively resulted in the interest rates on the Series P Notes being 3.44% per annum, the Series Q Notes to 3.44% per annum, the Series R Notes to 3.45% per annum, the

Series S Notes to 3.50% per annum and the Series T Notes to 3.62% per annum (see Note 8, Derivative instruments and hedging activities).

Interest on the remaining First Closing Notes, and the Series K and L Notes is payable semi-annually on April 1 and October 1 of each year until all principal is paid. Interest on the 2016 Notes is payable semi-annually on March 23 and September 23 of each year, until all principal is paid.

None of the Notes were registered under the Securities Act of 1933 and they may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements. Holders of the Notes do not have any registration rights. All of the issued Notes are held by multiple institutions.

Woodward's payment and performance obligations under the Notes, including without limitation the obligations for payment of all principal, interest and any applicable prepayment compensation amount, are guaranteed by (i) Woodward FST, Inc., Woodward MPC, Inc., and Woodward HRT, Inc., each of which is a wholly owned subsidiary of Woodward, and (ii) in the case of the BV Subsidiary's Series N and O Notes, by Woodward. Woodward's obligations under the Notes rank equal in right of payment with all of Woodward's other unsecured unsubordinated debt, including its outstanding debt under its revolving credit facility.

The Notes contain restrictive covenants customary for such financings, including, among other things, covenants that place limits on Woodward's ability to incur liens on assets, incur additional debt (including a leverage or coverage-based maintenance test), transfer or sell Woodward's assets, merge or consolidate with other persons and enter into material transactions with affiliates. Under the financial covenants contained in the note purchase agreement governing each series of the Notes, Woodward's priority debt may not exceed, at any time, 25% of its consolidated net worth. Woodward's Leverage Ratio cannot exceed 4.0 to 1.0 during any material acquisition period, or 3.5 to 1.0 at any other time on a rolling four quarter basis. In the event that Woodward's Leverage Ratio exceeds 3.5 to 1.0 during any material acquisition period, the interest rate on each series of Notes will increase. The minimum consolidated net worth, prior year positive net income, and net cash proceeds resulting from certain issuances of stock for satisfaction of Woodward's leverage ratio are consistent between the Notes and Revolving Credit Agreement.

Required future principal payments of the Notes as of September 30, 2022 are as follows:

Year Ending September 30:

2023	\$	—
2024		75,000
2025		85,000
2026		114,198
2027		85,000
Thereafter		347,595
	\$	706,793

Certain financial and other covenants under Woodward's debt agreements contain customary restrictions on the operation of its business. Management believes that Woodward was in compliance with the covenants under the long-term debt agreements at September 30, 2022.

Debt Issuance Costs

Amounts recognized as interest expense from the amortization of debt issuance costs were \$917 in fiscal year 2022, \$922 in fiscal year 2021, and \$892 in fiscal year 2020. Unamortized debt issuance costs associated with the Notes of \$1,438 as of September 30, 2022 and \$1,856 as of September 30, 2021 were recorded as a reduction in "Long-term debt, less current portion" in the Consolidated Balance Sheets. Unamortized debt issuance costs associated with Woodward's Revolving Credit Agreements of \$1,046 as of September 30, 2022 and \$1,644 as of September 30, 2021 were recorded as "Other assets" in the Consolidated Balance Sheets. Amortization of debt issuance costs is included in operating activities in the Consolidated Statements of Cash Flows.

Note 16. Accrued liabilities

	September 30, 2022	September 30, 2021
Salaries and other member benefits	\$ 75,665	\$ 54,497
Product warranties and related liabilities (1)	40,042	17,481
Interest payable	13,481	14,822
Accrued retirement benefits	2,779	2,825
Net current contract liabilities (Note 3)	30,663	29,527
Current portion of accrued restructuring charges (2)	1,083	4,495
Taxes, other than income	21,159	19,453
Purchase of treasury stock in transit	—	12,516
Other	21,411	27,523
	<u>\$ 206,283</u>	<u>\$ 183,139</u>

(1) In fiscal year 2022, product warranties and related liabilities include estimates related to product liabilities expected to be fully recoverable from insurance.

(2) In fiscal year 2021, other liabilities included \$513 of accrued restructuring charges.

Product warranties and related liabilities

Provisions of Woodward's sales agreements include product warranties customary to these types of agreements. Accruals are established for specifically identified warranty issues and related liabilities that are probable to result in future costs. Warranty costs are accrued as revenue is recognized on a non-specific basis whenever past experience indicates a normal and predictable pattern exists. Changes in accrued product warranties and related liabilities were as follows:

	Year Ended September 30,		
	2022	2021	2020
Beginning of period	\$ 17,481	\$ 18,972	\$ 27,309
Additions, net of recoveries	29,827	1,164	8,687
Reductions for settlement	(6,937)	(2,718)	(17,422)
Foreign currency exchange rate changes	(329)	63	398
End of period	<u>\$ 40,042</u>	<u>\$ 17,481</u>	<u>\$ 18,972</u>

Restructuring charges

In fiscal year 2022, the Company determined to implement a streamlined Aerospace and Industrial organizational and leadership structure designed to enhance the sales experience for customers, simplify operations, and increase profitability through improved execution. In connection with leadership changes arising from such reorganization, we recorded \$1,083 of restructuring charges as nonsegment expenses, the majority of which are expected to be paid within twelve months.

In fiscal year 2021, the Company recorded aggregate restructuring charges totaling \$5,008 as nonsegment expenses for two separate workforce management actions, one in our hydraulics systems business and one in our engine systems business. In fiscal year 2022, we experienced a challenging operating environment that included the ongoing impact of global supply chain and labor disruptions, along with high inflation, which resulted in changed business conditions as compared to when we initially recorded the restructuring charges in fiscal year 2021. We adapted to the changed business conditions by, among other initiatives, (i) developing and implementing plans to insource select machined components, (ii) redeploying talent and adding indirect resources to our factories to stabilize the production environment, and (iii) determining to retain employees that otherwise would have been impacted by the planned restructuring activities to support a stable workforce and effectively manage through attrition. As such, the remaining unpaid accrued restructuring charges, which amounted to \$4,503, were no longer needed and were reversed.

In fiscal year 2020, the Company committed to a plan of termination (the "COVID-19 Termination Plan"), as well as other cost savings actions, in response to the ongoing global economic challenges resulting from the COVID-19 pandemic and its impact on the Company's business. The COVID-19 Termination Plan involved the termination and/or furlough of employees and contractors at certain of the Company's operating facilities, primarily in the United States. As a result of the COVID-19 Termination Plan and other related actions, the Company incurred \$23,673 of restructuring charges for employee severance and benefits costs as of September 30, 2020, with the majority of the cash expenditures being paid by September 30, 2020. All of the restructuring charges recorded during the fiscal year ended September 30, 2020 were (i) recorded as nonsegment expenses and (ii) were paid or reversed, as appropriate, as of September 30, 2021.

The summary of activity in accrued restructuring charges during the fiscal years ended September 30, 2022 and September 30, 2021 is as follows:

	Period Activity					
	Balances as of September 30, 2021	Charges	Payments	Foreign currency exchange rate changes	Non-cash activity	Balances as of September 30, 2022
Workforce management costs associated with:						
Hydraulics Systems Realignment	\$ 3,758	\$ —	\$ (505)	\$ —	\$ (3,253)	\$ —
Engine Systems Realignment	1,250	—	—	—	(1,250)	—
Aerospace	—	139	—	—	—	139
Industrial	—	944	—	—	—	944
Total	\$ 5,008	\$ 1,083	\$ (505)	\$ —	\$ (4,503)	\$ 1,083

	Period Activity					
	Balances as of September 30, 2020	Charges	Payments	Foreign currency exchange rate changes	Non-cash activity	Balances as of September 30, 2021
Workforce management costs associated with:						
Hydraulics Systems Realignment	\$ —	\$ 3,758	\$ —	\$ —	\$ —	\$ 3,758
Engine Systems Realignment	—	1,250	—	—	—	1,250
COVID-19 pandemic	3,395	—	(2,409)	180	(1,166)	—
Total	\$ 3,395	\$ 5,008	\$ (2,409)	\$ 180	\$ (1,166)	\$ 5,008

Note 17. Other liabilities

		September 30, 2022	September 30, 2021
Net accrued retirement benefits, less amounts recognized within accrued liabilities		\$ 70,168	\$ 107,074
Total unrecognized tax benefits		9,757	13,412
Noncurrent income taxes payable		14,329	16,257
Deferred economic incentives (1)		7,029	8,173
Cross-currency swap derivative liability		—	50,185
Noncurrent operating lease liabilities		21,443	14,770
Net noncurrent contract liabilities		396,345	386,324
Other		10,185	21,713
		\$ 529,256	\$ 617,908

(1) Woodward receives certain economic incentives from various state and local authorities related to capital expansion projects. Such amounts are initially recorded as deferred credits and are being recognized as a reduction to pre-tax expense over the economic lives of the related capital expansion projects.

Note 18. Other (income) expense, net

	Year Ended September 30,		
	2022	2021	2020
Equity interest in the earnings of the JV (Note 6)	\$ (18,193)	\$ (11,366)	\$ (15,580)
Net gain on sales of assets and businesses(1)	(1,775)	(4,452)	(23,598)
Rent income	(672)	(1,355)	(1,403)
Net loss (gain) on investments in deferred compensation program	6,295	(4,929)	(3,376)
Other components of net periodic pension and other postretirement benefit, excluding service cost and interest expense	(11,572)	(14,127)	(11,809)
Other	(774)	(264)	(400)
	\$ (26,691)	\$ (36,493)	\$ (56,166)

(1) Included in net gain on sale of assets and businesses for the fiscal year ended September 30, 2020 was the pre-tax gain on sale of Duarte real property in the amount of \$22,323 and the pre-tax gain on sale of the Loveland campus of \$2,330.

Note 19. Income taxes

Income taxes consisted of the following:

	Year Ended September 30,		
	2022	2021	2020
Current:			
Federal	\$ 21,869	\$ 15,109	\$ 15,976
State	2,310	853	1,383
Foreign	27,577	34,354	22,588
Deferred:			
Federal	(13,216)	(8,369)	10,784
State	(8,623)	(2,658)	(547)
Foreign	(1,717)	(2,139)	(8,698)
	\$ 28,200	\$ 37,150	\$ 41,486

Earnings before income taxes by geographical area consisted of the following:

	Year Ended September 30,		
	2022	2021	2020
United States	\$ 99,427	\$ 136,280	\$ 180,753
Other countries	100,471	109,519	101,128
	\$ 199,898	\$ 245,799	\$ 281,881

Significant components of deferred income taxes presented in the Consolidated Balance Sheets are related to the following:

	September 30, 2022	September 30, 2021
Deferred tax assets:		
Defined benefit plans, other postretirement	\$ 4,144	\$ 5,364
Foreign net operating loss carryforwards	3,449	2,110
Inventory	57,102	51,011
Stock-based and other compensation	42,428	36,343
Deferred revenue net of unbilled receivables	49,491	46,002
Other reserves	8,017	10,619
Tax credits and incentives	25,623	22,756
Lease obligations	7,150	5,818
Other	3,402	7,936
Valuation allowance	(2,537)	(4,138)
Total deferred tax assets, net of valuation allowance	198,269	183,821
Deferred tax liabilities:		
Goodwill and intangibles - net	(187,988)	(210,911)
Property, plant and equipment	(100,215)	(105,724)
Right of use assets	(7,013)	(5,497)
Defined benefit plans, pension	(3,969)	(2,837)
Other	(2,832)	(2,722)
Total deferred tax liabilities	(302,017)	(327,691)
Net deferred tax liabilities	\$ (103,748)	\$ (143,870)

Woodward has recorded a net operating loss ("NOL") deferred tax asset of \$3,449 as of September 30, 2022 and \$2,110 as of September 30, 2021. The majority of the NOL carryforwards as of September 30, 2022 expire at various times beginning in fiscal years 2023 through 2029.

Woodward has recorded tax credits and incentives deferred tax assets of \$25,623 as of September 30, 2022 and \$22,756 as of September 30, 2021. The majority of the tax credit and incentive carryforwards as of September 30, 2022 expire at various times beginning in fiscal year 2023 through 2034.

Deferred tax assets are reduced by a valuation allowance when the realization of the deferred tax asset is less than 50 percent likely. Both positive and negative evidence are considered in forming Woodward's judgment as to whether a valuation allowance is appropriate, and more weight is given to evidence that can be objectively verified. Valuation allowances are reassessed whenever there are changes in circumstances that may cause a change in judgment.

The change in the valuation allowance was primarily the result of releasing a valuation allowance related to certain state tax credit carryforwards that we determined are now more likely than not realizable.

At September 30, 2022, Woodward has not provided for taxes on undistributed foreign earnings of \$346,000 that it considered indefinitely reinvested. These earnings could become subject to income taxes if they are remitted as dividends, are loaned to Woodward or any of Woodward's subsidiaries located in the United States, or if Woodward sells its stock in the foreign subsidiaries. Any additional U.S. taxes could be offset, in part or in whole, by foreign tax credits. The amount of such taxes and application of tax credits would be dependent on the income tax laws and other circumstances at the time these amounts are repatriated. Based on these variables, it is impractical to determine the income tax liability that might be incurred if these funds were to be repatriated.

The following is a reconciliation of the U.S. Federal statutory tax 21% in the fiscal years ended September 30, 2022, September 30, 2021 and September 30, 2020 to Woodward's effective income tax rate:

	Year Ending September 30,		
	2022	2021	2020
Percent of pretax earnings			
Statutory tax rate	21.0%	21.0%	21.0%
State income taxes, net of federal tax benefit	(2.5)	(0.5)	0.3
Taxes on international activities	0.8	(0.1)	(2.1)
Research credit	(4.5)	(3.1)	(3.6)
Net excess income tax benefit from stock-based compensation	(2.5)	(4.2)	(2.8)
Adjustments of prior period tax items	—	0.4	1.0
Compensation and benefits	0.3	0.5	0.4
Other items, net	1.5	1.1	0.5
Effective tax rate	14.1%	15.1%	14.7%

In determining the tax amounts in Woodward's financial statements, estimates are sometimes used that are subsequently adjusted in the actual filing of tax returns or by updated calculations. In addition, Woodward occasionally has resolutions of tax items with tax authorities related to prior years due to the conclusion of audits and the lapse of applicable statutes of limitations. Such adjustments are included in the "Adjustments of prior period tax items" line in the above table.

The decrease in the effective tax rate for fiscal year 2022 compared to fiscal year 2021 is primarily attributable to a partial release of valuation allowance related to state credits and increased Research and Development Credit in the current fiscal year when compared to the prior fiscal year. This decrease was partially offset by a smaller stock-based compensation tax benefit in the current fiscal year when compared to the prior fiscal year.

A reconciliation of the beginning and ending amounts of gross unrecognized tax benefits follows:

	Year Ending September 30,		
	2022	2021	2020
Beginning balance	\$ 15,199	\$ 9,851	\$ 10,305
Additions to current year tax positions	1,783	2,289	1,890
Reductions to prior year tax positions	(963)	—	(2,415)
Additions to prior year tax positions	112	3,166	71
Lapse of applicable statute of limitations	(4,193)	(107)	—
Ending balance	\$ 11,938	\$ 15,199	\$ 9,851

Included in the balance of unrecognized tax benefits were \$8,092 as of September 30, 2022 and \$8,724 as of September 30, 2021 of tax benefits that, if recognized, would affect the effective tax rate. At this time, Woodward estimates that it is reasonably possible that the liability for unrecognized tax benefits will decrease by as much as \$4,203 in the next twelve months due to the completion of review by tax authorities, lapses of statutes, and the settlement of tax positions. Woodward accrues for potential interest and penalties related to unrecognized tax benefits and all other interest and penalties related to tax payments in tax expense.

Woodward's tax returns are subject to audits by U.S. federal, state, and foreign tax authorities, and these audits are at various stages of completion at any given time. Reviews of tax matters by authorities and lapses of the applicable statutes of limitation may result in changes to tax expense. Woodward's fiscal years remaining open to examination for U.S. Federal income taxes include fiscal years 2019 and thereafter. In fiscal year 2020, Woodward concluded its U.S. Federal income tax examination through fiscal year 2017, which included a foreign tax carryback to fiscal year 2016. Woodward's fiscal years remaining open to examination for significant U.S. state income tax jurisdictions include fiscal years 2018 and thereafter. Woodward's, fiscal years remaining open to examination in significant foreign jurisdictions include 2017 and thereafter.

Note 20. Retirement benefits

Woodward provides various retirement benefits to eligible members of the Company, including contributions to various defined contribution plans, pension benefits associated with defined benefit plans, postretirement medical benefits and postretirement life insurance benefits. Eligibility requirements and benefit levels vary depending on employee location.

Defined contribution plans

Most of the Company's U.S. employees are eligible to participate in the U.S. defined contribution plan. The U.S. defined contribution plan allows employees to defer part of their annual income for income tax purposes into their personal 401(k) accounts. The Company makes matching contributions to eligible employee accounts, which are also deferred for employee personal income tax purposes. Certain non-U.S. employees are also eligible to participate in similar non-U.S. plans.

Prior to January 1, 2021 most of Woodward's U.S. employees with at least two years of qualifying service (such two years of service, the "Initial Period of Service") received an annual contribution of Woodward stock, generally equal to 5% of their eligible prior year wages, to their personal Woodward Retirement Savings Plan accounts (the "Stock Contribution"). Effective as of January 1, 2021, the Board amended the Woodward Retirement Savings Plan to eliminate the Initial Period Service for purposes of the Stock Contribution. Eligible U.S. employees are now generally eligible to receive the Stock Contribution if they are employed by the Company on the last day of the applicable calendar year without regard to service time. The first Company Stock Contribution under the amended contribution rules were made during the second quarter of fiscal year 2022.

In the second quarters of fiscal years 2022, 2021, and 2020, Woodward fulfilled its annual Woodward stock contribution obligation using shares held in treasury stock by issuing a total of 150 shares of common stock for a value of \$17,132 in fiscal year 2022, 128 total shares of common stock for a value of \$14,900 in fiscal year 2021, and 124 shares of common stock for a value of \$14,748 in fiscal year 2020. The Woodward Retirement Savings Plan (the "WRS Plan") held 2,553 shares of Woodward stock as of September 30, 2022 and 2,760 shares as of September 30, 2021. The shares held in the WRS Plan participate in dividends and are considered issued and outstanding for purposes of calculating basic and diluted earnings per share. Accrued liabilities included obligations to contribute shares of Woodward common stock to the WRS Plan in the amount of \$14,769 as of September 30, 2022 and \$11,588 as of September 30, 2021.

The amount of expense associated with defined contribution plans was as follows:

	Year Ended September 30,		
	2022	2021	2020
Company costs	\$ 40,898	\$ 33,717	\$ 33,769

Defined benefit plans

Woodward has defined benefit plans that provide pension benefits for certain retired employees in the United States, the United Kingdom, Japan, and Germany. Woodward also provides other postretirement benefits to its employees including postretirement medical benefits and life insurance benefits. Postretirement medical benefits are provided to certain current and retired employees and their covered dependents and beneficiaries in the United States and the United Kingdom. Life insurance benefits are provided to certain retirees in the United States under frozen plans, which are no longer available to current employees. A September 30 measurement date is utilized to value plan assets and obligations for all of Woodward's defined benefit pension and other postretirement benefit plans.

Excluding the Woodward HRT Plan, which is only partially frozen to salaried participants, the defined benefit plans in the United States were frozen in fiscal year 2007 and no additional employees may participate in the U.S. plans and no additional service costs will be incurred.

Pension Plans

The actuarial assumptions used in measuring the net periodic benefit cost and plan obligations of retirement pension benefits were as follows:

	At September 30,		
	2022	2021	2020
United States:			
Weighted-average assumptions to determine benefit obligation:			
Discount rate	5.70%	3.05%	2.75%
Weighted-average assumptions to determine periodic benefit costs:			
Discount rate	3.05	2.75	3.25
Long-term rate of return on plan assets	5.00	7.15	7.39

The discount rate assumption is intended to reflect the rate at which the retirement benefits could be effectively settled based upon the assumed timing of the benefit payments.

In the United States, Woodward uses a bond portfolio matching analysis based on recently traded, non-callable bonds rated AA or better that have at least \$50 million outstanding to determine the benefit obligations at year end.

	At September 30,		
	2022	2021	2020
United Kingdom:			
Weighted-average assumptions to determine benefit obligation:			
Discount rate	5.35%	2.05%	1.62%
Rate of compensation increase	4.00	3.80	3.30
Weighted-average assumptions to determine periodic benefit costs:			
Discount rate - service cost	2.15	1.71	1.79
Discount rate - interest cost	1.83	1.41	1.59
Rate of compensation increase	4.00	3.30	3.50
Long-term rate of return on plan assets	3.80	4.00	4.75

	At September 30,		
	2022	2021	2020
Japan:			
Weighted-average assumptions to determine benefit obligation:			
Discount rate	1.60%	0.92%	1.10%
Rate of compensation increase	2.00	2.00	2.00
Weighted-average assumptions to determine periodic benefit costs:			
Discount rate - service cost	1.13	1.33	0.72
Discount rate - interest cost	0.65	0.74	0.31
Rate of compensation increase	2.25	2.00	2.00
Long-term rate of return on plan assets	2.00	2.00	2.50

	At September 30,		
	2022	2021	2020
Germany:			
Weighted-average assumptions to determine benefit obligation:			
Discount rate	3.97%	1.36%	0.97%
Rate of compensation increase	2.50	2.50	2.50
Weighted-average assumptions to determine periodic benefit costs:			
Discount rate - service cost	1.54	1.11	1.01
Discount rate - interest cost	1.06	0.76	0.56
Rate of compensation increase	2.50	2.50	2.50

In the United Kingdom, Germany and Japan, Woodward uses a high-quality corporate bond yield curve matched with separate cash flows to develop a single rate to determine the single rate equivalent to settle the entire benefit obligations in each jurisdiction. For the fiscal years ended September 30, 2022 and 2021, the discount rate used to determine periodic service cost and interest cost components of the overall benefit costs was based on spot rates derived from the same high-quality corporate bond yield curve used to determine the September 30, 2021 and 2020 benefit obligation, respectively, matched with separate cash flows for each future year.

Compensation increase assumptions, where applicable, are based upon historical experience and anticipated future management actions.

In determining the long-term rate of return on plan assets, Woodward assumes that the historical long-term compound growth rates of equity and fixed-income securities will predict the future returns of similar investments in the plan portfolio. Investment management and other fees paid out of the plan assets are factored into the determination of asset return assumptions.

Mortality assumptions are based on published mortality studies developed primarily based on past experience of the broad population and modified for projected longevity trends. The projected benefit obligations in the United States as of September 30, 2022 and September 30, 2021 were based on the Society of Actuaries (“SOA”) Pri-2012 Mortality Tables Report using the SOA’s Mortality Improvement Scale MP-2019 (“MP-2019”) and projected forward using a custom projection scale based on MP-2019 with a 5-year convergence period and a long-term rate of 0.75%.

As of September 30, 2022 and September 30, 2021, mortality assumptions in Japan were based on the Standard rates 2020 and mortality assumptions for the United Kingdom pension scheme were based on the Self-administered pension scheme (“SAPS”) S3 “all” tables with a projected 1.5% annual improvement rate. As of September 30, 2022, and September 30, 2021, mortality assumptions in Germany were based on the Heubeck 2018 G mortality tables.

Net periodic benefit costs consist of the following components reflected as expense in Woodward’s Consolidated Statement of Earnings:

	Year Ended September 30,									
	United States			Other Countries			Total			\$
	2022	2021	2020	2022	2021	2020	2022	2021	2020	
Service cost	\$ 1,554	\$ 1,729	\$ 1,659	\$ 2,339	\$ 2,922	\$ 2,865	\$ 3,893	\$ 4,651	\$ 4,524	
Interest cost	5,281	4,957	5,590	1,612	1,361	1,278	6,893	6,318	6,868	
Expected return on plan assets	(10,853)	(14,144)	(12,346)	(2,434)	(2,482)	(2,827)	(13,287)	(16,626)	(15,173)	
Amortization of:										
Net losses	259	541	1,430	555	931	1,046	814	1,472	2,476	
Net prior service cost	981	969	936	23	25	23	1,004	994	959	
Net periodic (benefit) cost	<u>\$ (2,778)</u>	<u>\$ (5,948)</u>	<u>\$ (2,731)</u>	<u>\$ 2,095</u>	<u>\$ 2,757</u>	<u>\$ 2,385</u>	<u>\$ (683)</u>	<u>\$ (3,191)</u>	<u>\$ (346)</u>	

The following tables provide a reconciliation of the changes in the projected benefit obligation and fair value of assets for the defined benefit pension plans:

	At or for the Year Ended September 30,					
	United States		Other Countries		Total	
	2022	2021	2022	2021	2022	2021
Changes in projected benefit obligation:						
Projected benefit obligation at beginning of year	\$ 177,346	\$ 184,077	\$ 122,018	\$ 123,546	\$ 299,364	\$ 307,623
Plan amendment	—	611	—	—	—	611
Service cost	1,554	1,729	2,339	2,922	3,893	4,651
Interest cost	5,281	4,957	1,612	1,361	6,893	6,318
Net actuarial losses (gains)	(43,639)	(6,496)	(40,968)	(3,459)	(84,607)	(9,955)
Contribution by participants	—	—	10	10	10	10
Benefits paid	(8,098)	(7,532)	(3,487)	(3,782)	(11,585)	(11,314)
Foreign currency exchange rate changes	—	—	(16,047)	1,420	(16,047)	1,420
Projected benefit obligation at end of year	<u>\$ 132,444</u>	<u>\$ 177,346</u>	<u>\$ 65,477</u>	<u>\$ 122,018</u>	<u>\$ 197,921</u>	<u>\$ 299,364</u>
Changes in fair value of plan assets:						
Fair value of plan assets at beginning of year	\$ 221,263	\$ 201,555	\$ 69,844	\$ 65,154	\$ 291,107	\$ 266,709
Actual return on plan assets	(58,684)	27,240	(9,822)	4,675	(68,506)	31,915
Contributions by the Company	—	—	2,370	2,185	2,370	2,185
Contributions by plan participants	—	—	10	10	10	10
Benefits paid	(8,098)	(7,532)	(3,487)	(3,782)	(11,585)	(11,314)
Foreign currency exchange rate changes	—	—	(11,336)	1,602	(11,336)	1,602
Fair value of plan assets at end of year	<u>\$ 154,481</u>	<u>\$ 221,263</u>	<u>\$ 47,579</u>	<u>\$ 69,844</u>	<u>\$ 202,060</u>	<u>\$ 291,107</u>
Net over/(under) funded status at end of year	<u>\$ 22,037</u>	<u>\$ 43,917</u>	<u>\$ (17,898)</u>	<u>\$ (52,174)</u>	<u>\$ 4,139</u>	<u>\$ (8,257)</u>

At September 30, 2022, the Company's defined benefit pension plans in the United Kingdom, Japan and Germany represented \$30,788, \$6,976 and \$27,713 of the total projected benefit obligation, respectively. At September 30, 2022, the United Kingdom and Japan pension plan assets represented \$39,096 and \$8,483 of the total fair value of all plan assets, respectively. The German pension plans are unfunded and have no plan assets.

The largest contributor to the net actuarial gains affecting the funded status for the defined benefit pension plans in the United States is due to an increase in the discount rate. The largest contributor to the net actuarial gains affecting the benefit obligation for the defined benefit pension plans in the United Kingdom, Japan, and Germany is due to an increase in the discount rate.

The accumulated benefit obligations of the Company's defined benefit pension plans at September 30, 2022 was \$132,444 in the United States, \$30,342 in the United Kingdom, \$6,432 in Japan, and \$27,707 in Germany, and at September 30, 2021 was \$177,346 in the United States, \$60,690 in the United Kingdom, \$8,958 in Japan, and \$50,402 in Germany.

	Plans with accumulated benefit obligation in excess of plan assets		Plans with accumulated benefit obligation less than plan assets	
	At September 30,		At September 30,	
	2022	2021	2022	2021
Projected benefit obligation	\$ (48,371)	\$ (112,302)	\$ (149,550)	\$ (187,062)
Accumulated benefit obligation	(48,354)	(111,151)	(148,571)	(186,245)
Fair value of plan assets	18,459	57,945	183,601	233,161

The following tables provide the amounts recognized in the statement of financial position and accumulated other comprehensive losses for the defined benefit pension plans:

	Year Ended September 30,					
	United States		Other Countries		Total	
	2022	2021	2022	2021	2022	2021
Amounts recognized in statement of financial position consist of:						
Other non-current assets	\$ 24,159	\$ 43,917	\$ 9,892	\$ 2,182	\$ 34,051	\$ 46,099
Accrued liabilities	—	—	(976)	(1,017)	(976)	(1,017)
Other non-current liabilities	(2,122)	—	(26,814)	(53,339)	(28,936)	(53,339)
Net over/(under) funded status at end of year	<u>\$ 22,037</u>	<u>\$ 43,917</u>	<u>\$ (17,898)</u>	<u>\$ (52,174)</u>	<u>\$ 4,139</u>	<u>\$ (8,257)</u>
Amounts recognized in accumulated other comprehensive income consist of:						
Unrecognized net prior service cost	\$ 3,475	\$ 4,455	\$ 462	\$ 584	\$ 3,937	\$ 5,039
Unrecognized net losses (gains)	14,822	(10,816)	(5,459)	24,860	9,363	14,044
Total amounts recognized	18,297	(6,361)	(4,997)	25,444	13,300	19,083
Deferred taxes	(7,801)	(1,691)	(697)	(7,785)	(8,498)	(9,476)
Amounts recognized in accumulated other comprehensive income	<u>\$ 10,496</u>	<u>\$ (8,052)</u>	<u>\$ (5,694)</u>	<u>\$ 17,659</u>	<u>\$ 4,802</u>	<u>\$ 9,607</u>

The following table reconciles the changes in accumulated other comprehensive losses for the defined benefit pension plans:

	Year Ended September 30,					
	United States		Other Countries		Total	
	2022	2021	2022	2021	2022	2021
Accumulated other comprehensive losses at beginning of year						
Accumulated other comprehensive losses at beginning of year	\$ (6,361)	\$ 14,131	\$ 25,444	\$ 31,377	\$ 19,083	\$ 45,508
Net loss (gain)	25,898	(19,593)	(28,712)	(5,832)	(2,814)	(25,425)
Prior service cost due to plan amendment	—	611	—	—	—	611
Amortization of:						
Net losses	(259)	(541)	(555)	(931)	(814)	(1,472)
Prior service cost	(981)	(969)	(23)	(25)	(1,004)	(994)
Foreign currency exchange rate changes	—	—	(1,151)	855	(1,151)	855
Accumulated other comprehensive losses at end of year	<u>\$ 18,297</u>	<u>\$ (6,361)</u>	<u>\$ (4,997)</u>	<u>\$ 25,444</u>	<u>\$ 13,300</u>	<u>\$ 19,083</u>

Pension benefit payments are made from the assets of the pension plans. The German pension plans are unfunded; therefore, benefit payments are made from Company contributions into these plans as required to meet the payment obligations. Using foreign exchange rates as of September 30, 2022 and expected future service assumptions, it is anticipated that the future benefit payments will be as follows:

Year Ending September 30,	Other		
	United States	Countries	Total
2023	\$ 8,839	\$ 3,184	\$ 12,023
2024	9,310	3,083	12,393
2025	9,673	3,060	12,733
2026	9,967	3,069	13,036
2027	10,235	3,180	13,415
2028 – 2032	52,807	19,239	72,046

Woodward expects its pension plan contributions in fiscal year 2023 will be \$1,044 in the United Kingdom, \$134 in Japan and \$990 in Germany. Woodward expects to have no pension plan contributions in fiscal year 2023 in the United States.

Pension plan assets

The overall investment objective of the pension plan assets is to earn a rate of return over time which, when combined with Company contributions, satisfies the benefit obligations of the pension plans and maintains sufficient liquidity to pay benefits.

As the timing and nature of the plan obligations varies for each Company sponsored pension plan, investment strategies have been individually designed for each pension plan with a common focus on maintaining diversified investment portfolios that provide for long-term growth while minimizing the risk to principal associated with short-term market behavior. The strategy for each of the plans balances the requirements to generate returns, using investments expected to produce higher returns, such as equity securities, with the need to control risk within the pension plans using less volatile investment assets, such as debt securities. A strategy of more equity-oriented allocation is adopted for those plans which have a longer-term investment plan based on the timing of the associated benefit obligations.

Risks associated with the plan assets include interest rate fluctuation risk, market fluctuation risk, risk of default by debt issuers and liquidity risk. To manage these risks, the assets are managed by established, professional investment firms and performance is evaluated regularly by the Company's pension oversight committee against specific benchmarks and each plan's investment objectives. Liability management and asset class diversification are central to the Company's risk management approach and overall investment strategy.

The assets of the U.S. plans are invested in actively managed mutual funds. The assets of the plans in the United Kingdom and Japan are invested in actively managed pooled investment funds. Each individual mutual fund or pooled investment fund has been selected based on the investment strategy of the related plan, which mirrors a specific asset class within the associated target allocation. The plans in Germany are unfunded and have no plan assets. Pension plan assets at September 30, 2022 and 2021 do not include any direct investment in Woodward's common stock.

The asset allocations are monitored and rebalanced regularly by investment managers assigned to the individual pension plans. The actual allocations of pension plan assets and target allocation ranges by asset class, are as follows:

	At September 30,													
	2022				2021									
	Percentage of Plan Assets	Target Allocation Ranges			Percentage of Plan Assets	Target Allocation Ranges								
United States:														
Asset Class														
Equity Securities	29.5%	2.4%	—	51.2%	30.7%	2.5%	—	51.2%						
Debt Securities	69.0%	58.8%	—	87.6%	67.7%	58.8%	—	87.5%						
Other	1.5%	0.0%			1.6%	0.0%								
	100.0%				100.0%									
United Kingdom:														
Asset Class														
Equity Securities	46.2%	50.0%	—	90.0%	42.3%	50.0%	—	90.0%						
Debt Securities	52.3%	45.0%	—	70.0%	57.3%	45.0%	—	70.0%						
Other	1.5%	0.0%			0.4%	0.0%								
	100.0%				100.0%									
Japan:														
Asset Class														
Equity Securities	39.9%	36.0%	—	44.0%	40.3%	36.0%	—	44.0%						
Debt Securities	60.1%	55.0%	—	63.0%	58.8%	55.0%	—	63.0%						
Other	0.0%	0.0%	—	2.0%	0.9%	0.0%	—	2.0%						
	100.0%				100.0%									

Actual allocations to each asset class can vary from target allocations due to periodic market value fluctuations, investment strategy changes, and the timing of benefit payments and contributions.

The following tables present Woodward's pension plan assets using the fair value hierarchy established by U.S. GAAP:

	At September 30, 2022						
	Level 1		Level 2		Level 3		
	United States	Other Countries	United States	Other Countries	United States	Other Countries	Total
Asset Category:							
Cash and cash equivalents	\$ 2,265	\$ 467	\$ —	\$ —	\$ —	\$ —	\$ 2,732
Mutual funds:							
U.S. corporate bond fund	106,653	—	—	—	—	—	106,653
U.S. equity large cap fund	28,088	—	—	—	—	—	28,088
International equity large cap growth fund	17,475	—	—	—	—	—	17,475
Pooled funds:							
Japanese equity securities	—	—	—	1,775	—	—	1,775
International equity securities	—	—	—	1,610	—	—	1,610
Japanese fixed income securities	—	—	—	3,875	—	—	3,875
International fixed income securities	—	—	—	1,325	—	—	1,325
Global target return equity/bond fund	—	—	—	11,533	—	—	11,533
Index linked U.K. equity fund	—	—	—	2,253	—	—	2,253
Index linked international equity fund	—	—	—	4,271	—	—	4,271
Index linked U.K. corporate bonds fund	—	—	—	12,124	—	—	12,124
Index linked U.K. government securities fund	—	—	—	3,701	—	—	3,701
Index linked U.K. long-term government securities fund	—	—	—	4,645	—	—	4,645
Total assets	\$ 154,481	\$ 467	\$ —	\$ 47,112	\$ —	\$ —	\$ 202,060
	At September 30, 2021						
	Level 1		Level 2		Level 3		
	United States	Other Countries	United States	Other Countries	United States	Other Countries	Total
Asset Category:							
Cash and cash equivalents	\$ 3,508	\$ 324	\$ —	\$ —	\$ —	\$ —	\$ 3,832
Mutual funds:							
U.S. corporate bond fund	149,727	—	—	—	—	—	149,727
U.S. equity large cap fund	41,988	—	—	—	—	—	41,988
International equity large cap growth fund	26,040	—	—	—	—	—	26,040
Pooled funds:							
Japanese equity securities	—	—	—	2,610	—	—	2,610
International equity securities	—	—	—	2,180	—	—	2,180
Japanese fixed income securities	—	—	—	5,224	—	—	5,224
International fixed income securities	—	—	—	1,775	—	—	1,775
Global target return equity/bond fund	—	—	—	15,201	—	—	15,201
Index linked U.K. equity fund	—	—	—	3,236	—	—	3,236
Index linked international equity fund	—	—	—	6,093	—	—	6,093
Index linked U.K. corporate bonds fund	—	—	—	18,438	—	—	18,438
Index linked U.K. government securities fund	—	—	—	6,047	—	—	6,047
Index linked U.K. long-term government securities fund	—	—	—	8,716	—	—	8,716
Total assets	\$ 221,263	\$ 324	\$ —	\$ 69,520	\$ —	\$ —	\$ 291,107

Cash and cash equivalents: Cash and cash equivalents held by the Company's pension plans are held on deposit with creditworthy financial institutions. The fair value of the cash and cash equivalents are based on the quoted market price of the respective currency in which the cash is maintained.

Pension assets invested in mutual funds: The assets of the Company's U.S. pension plans are invested in various mutual funds which invest in both equity and debt securities. The fair value of the mutual funds is determined based on the quoted market price of each fund.

Pension assets invested in pooled funds: The assets of the Company's Japan and United Kingdom pension plans are invested in pooled investment funds, which include both equity and debt securities. The assets of the United Kingdom pension plan are invested in index-linked pooled funds which aim to replicate the movements of an underlying market index to which the fund is linked. Fair value of the pooled funds is based on the net asset value of shares held by the plan as reported by the fund sponsors. All pooled funds held by plans outside of the United States are considered to be invested in international equity and debt securities. Although the underlying securities may be largely domestic to the plan holding the investment assets, the underlying assets are considered international from the perspective of the Company.

There were no transfers into or out of Level 3 assets in fiscal years 2022 or 2021.

Other postretirement benefit plans

Woodward provides other postretirement benefits to its employees including postretirement medical benefits and life insurance benefits. Postretirement medical benefits are provided to certain current and retired employees and their covered dependents and beneficiaries in the United States. Benefits include the option to elect company provided medical insurance coverage to age 65 and a Medicare supplemental plan after age 65. Life insurance benefits are also provided to certain retirees in the United States under frozen plans which are no longer available to current employees. A September 30 measurement date is utilized to value plan assets and obligations for Woodward's other postretirement benefit plans.

The postretirement medical benefit plans, other than the plan assumed in an acquisition in fiscal year 2009, were frozen in fiscal year 2006 and no additional employees may participate in the plans. Generally, employees who had attained age 55 and had rendered 10 or more years of service before the plans were frozen were eligible for these postretirement medical benefits.

Certain participating retirees are required to contribute to the plans in order to maintain coverage. The plans provide postretirement medical benefits for approximately 7 retired employees and their covered dependents and beneficiaries and may provide future benefits to 401 active employees and their covered dependents and beneficiaries, upon retirement, if the employees elect to participate. All the postretirement medical plans are fully insured for retirees who have attained age 65.

The actuarial assumptions used in measuring the net periodic benefit cost and plan obligations of postretirement benefits were as follows:

	At September 30,		
	2022	2021	2020
Weighted-average discount rate used to determine benefit obligation	5.70%	2.80%	2.45%
Weighted-average discount rate used to determine net periodic benefit cost	2.80	2.45	3.05

The discount rate assumption is intended to reflect the rate at which the postretirement benefits could be effectively settled based upon the assumed timing of the benefit payments.

Woodward used a bond portfolio matching analysis based on recently traded, non-callable bonds rated AA or better that have at least \$50 million outstanding to determine the benefit obligations at year end.

Mortality assumptions are based on published mortality studies developed primarily based on past experience of the broad population and modified for projected longevity trends. The projected benefit obligations in the United States as of September 30, 2022 and September 30, 2021 were based on the SOA Pri-2012 Mortality Tables Report using the SOA's MP-2019 and projected forward using a custom projection scale based on MP-2019 with a 5-year convergence period and a long-term rate of 0.75%.

Assumed healthcare cost trend rates at September 30, were as follows:

	2022	2021
Health care cost trend rate assumed for next year	6.00%	6.00%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	5.00%	5.00%
Year that the rate reaches the ultimate trend rate	2027	2027

Net periodic benefit costs consist of the following components reflected as expense in Woodward's Consolidated Statements of Earnings:

	Year Ended September 30,		
	2022	2021	2020
Service cost	\$ 1	\$ 1	\$ 2
Interest cost	577	599	782
Amortization of:			
Net (gain) loss	(94)	30	47
Net prior service cost (benefit)	—	1	3
Net periodic cost	<u>\$ 484</u>	<u>\$ 631</u>	<u>\$ 834</u>

The following table provides a reconciliation of the changes in the accumulated postretirement benefit obligation and fair value of assets for the postretirement benefits:

	Year Ended September 30,	
	2022	2021
Changes in accumulated postretirement benefit obligation:		
Accumulated postretirement benefit obligation at beginning of year	\$ 21,544	\$ 25,445
Service cost	1	1
Interest cost	577	599
Premiums paid by plan participants	923	993
Net actuarial gains	(3,504)	(2,422)
Benefits paid	(2,744)	(3,072)
Accumulated postretirement benefit obligation at end of year	<u>\$ 16,797</u>	<u>\$ 21,544</u>
Changes in fair value of plan assets:		
Fair value of plan assets at beginning of year	\$ —	\$ —
Contributions by the company	1,821	2,079
Premiums paid by plan participants	923	993
Benefits paid	(2,744)	(3,072)
Fair value of plan assets at end of year	<u>\$ —</u>	<u>\$ —</u>
Funded status at end of year	<u>\$ (16,797)</u>	<u>\$ (21,544)</u>

The following tables provide the amounts recognized in the statement of financial position and accumulated other comprehensive losses for the postretirement plans:

	Year Ended September 30,	
	2022	2021
Amounts recognized in statement of financial position consist of:		
Accrued liabilities	\$ (1,803)	\$ (1,808)
Other non-current liabilities	(14,994)	(19,736)
Funded status at end of year	<u>\$ (16,797)</u>	<u>\$ (21,544)</u>
Amounts recognized in accumulated other comprehensive income consist of:		
Unrecognized net prior service cost (benefit)	\$ -	\$ -
Unrecognized net gains	(6,225)	(2,815)
Total amounts recognized	(6,225)	(2,815)
Deferred taxes	1,247	289
Amounts recognized in accumulated other comprehensive income	<u>\$ (4,978)</u>	<u>\$ (2,526)</u>

Woodward pays plan benefits from its general funds; therefore, there are no segregated plan assets as of September 30, 2022 or September 30, 2021.

The accumulated benefit obligations of the Company's postretirement plans were \$16,797 at September 30, 2022 and \$21,544 at September 30, 2021. The largest contributor to the actuarial gains affecting the Company's postretirement plans accumulated benefit obligations were the claims experience being lower than expected and increase in discount rate.

The following table reconciles the changes in accumulated other comprehensive losses for the other postretirement benefit plans:

	Year Ended September 30,	
	2022	2021
Accumulated other comprehensive losses at beginning of year	\$ (2,815)	\$ (362)
Net gain	(3,504)	(2,422)
Amortization of:		
Net gains (losses)	94	(30)
Prior service cost	—	(1)
Accumulated other comprehensive losses at end of year	\$ (6,225)	\$ (2,815)

Using expected future service, it is anticipated that the future Company contributions to pay benefits for other postretirement benefit plans, excluding participate contributions, will be as follows:

Year Ending September 30,	
2023	\$ 2,816
2024	2,765
2025	2,691
2026	2,602
2027	2,490
2028 – 2032	10,659

Note 21. Stockholders' equity

Common Stock

Holders of Woodward's common stock are entitled to receive dividends when and as declared by the Board and have the right to one vote per share on all matters requiring stockholder approval.

Dividends declared and paid were as follows:

	Year Ended September 30,		
	2022	2021	2020
Dividends declared and paid	\$ 44,978	\$ 36,041	\$ 37,664
Dividend per share amount	0.7325	0.5688	0.6050

Stock repurchase program

In November 2019, the Board had authorized a program for the repurchase of up to \$500,000 of Woodward's outstanding shares of common stock on the open market or in privately negotiated transactions over a three-year period that was scheduled to expire in November 2022 (the "2019 Authorization"). During fiscal year 2022, we repurchased 233 shares of our common stock for \$26,742 under the 2019 Authorization. During fiscal year 2021, we repurchased 404 shares of our common stock for \$45,860 under the 2019 Authorization, of which 110 shares repurchased were in-transit for \$12,516 as of September 30, 2021 and received in fiscal year 2022. During fiscal year 2020, we repurchased 124 shares of our common stock for \$13,346 under the 2019 Authorization.

In January 2022, the Board terminated the 2019 Authorization and concurrently authorized a program for the repurchase of up to \$800,000 of Woodward's outstanding shares of common stock on the open market or in privately negotiated transactions over a two-year period ending in January 2024 (the "2022 Authorization"). During fiscal year 2022, we repurchased 3,890 shares of our common stock for \$446,042 under the 2022 Authorization.

Stock-based compensation

Non-qualified stock option awards and restricted stock awards are granted to key management members and directors of the Company. The grant date for these awards is used for the measurement date. Vesting would be accelerated in the event of retirement, disability, or death of a participant, or change in control of the Company, as defined in the individual stock option agreements. These awards are valued as of the measurement date and are amortized on a straight-line basis over the requisite vesting period for all awards, including awards with graded vesting. Stock for exercised stock options and for restricted stock awards is issued from treasury stock shares.

Provisions governing outstanding stock option awards are included in the 2017 Omnibus Incentive Plan, as amended from time to time (the “2017 Plan”) and the 2006 Omnibus Incentive Plan (the “2006 Plan”), as applicable.

The 2017 Plan was approved by Woodward’s stockholders in January 2017 and is a successor plan to the 2006 Plan. As of September 14, 2016, the effective date of the 2017 Plan, the Board delegated authority to administer the 2017 Plan to the compensation committee of the board of directors (the “Committee”), including, but not limited to, the power to determine the recipients of awards and the terms of those awards. On January 29, 2020, Woodward’s stockholders approved an additional 1,000 shares of Woodward’s common stock to be made available for future grants. Under the 2017 Plan, there were approximately 2,938 shares of Woodward’s common stock available for future grants as of September 30, 2022.

In connection with Thomas A. Gendron’s retirement, Charles (“Chip”) Blankenship, Jr. was appointed as Chief Executive Officer and President of the Company effective May 9, 2022. Mr. Blankenship received a one-time grant of restricted stock units (“RSUs”) on his employment start date with a target delivered value of \$3,400,000, all of which is scheduled to vest on the third anniversary of the grant date, generally subject to his continued employment. He also received a non-qualified stock option grant on his employment start date with a targeted delivered value of \$2,200,000, the exercise price of which was equal to the closing price of the Company’s stock on the Nasdaq Stock Market on the date of grant and which is scheduled to vest over four years at a rate of 25% per year subject to his continued employment.

Stock options

Woodward believes that stock options align the interests of its employees and directors with the interests of its stockholders. Stock option awards are granted with an exercise price equal to the market price of Woodward’s stock at the date the grants are awarded, a ten-year term, and generally have a four-year vesting schedule at a rate of 25% per year.

The fair value of options granted is estimated as of the grant date using the Black-Scholes-Merton option-valuation model using the assumptions in the following table. Woodward calculates the expected term, which represents the average period of time that stock options granted are expected to be outstanding, based upon historical experience of plan participants. Expected volatility is based on historical volatility using daily stock price observations. The estimated dividend yield is based upon Woodward’s historical dividend practice and the market value of its common stock. The risk-free rate is based on the U.S. treasury yield curve, for periods within the contractual life of the stock option, at the time of grant.

	Year Ended September 30,		
	2022	2021	2020
Weighted-average exercise price per share	\$ 115.30	\$ 82.46	\$ 90.52
Expected term (years)	6.6 -	8.7	6.4 -
Estimated volatility	33.8% -	36.4%	33.3% -
Estimated dividend yield	0.6% -	0.8%	0.3% -
Risk-free interest rate	1.1% -	3.5%	0.4% -
			1.7%

The weighted average grant date fair value of options granted follows:

	Year Ended September 30,		
	2022	2021	2020
Weighted-average grant date fair value of options	\$ 41.78	\$ 28.22	\$ 25.41

The following is a summary of the activity for stock option awards during the fiscal year ended September 30, 2022:

	Number	Weighted-Average Exercise Price Per Share
Balance at September 30, 2021	5,339	\$ 68.21
Options granted	514	115.30
Options exercised	(468)	47.23
Options forfeited	(44)	88.65
Options expired	(2)	93.79
Balance at September 30, 2022	5,339	74.40

Exercise prices of stock options outstanding as of September 30, 2022 range from \$33.64 to \$104.77.

Changes in non-vested stock options during the fiscal year ended September 30, 2022 were as follows:

	Number	Weighted-Average Grant Date Fair Value Per Share
Balance at September 30, 2021	2,063	\$ 25.77
Options granted	514	41.78
Options vested	(721)	26.25
Options forfeited	(44)	29.53
Balance at September 30, 2022	<u>1,812</u>	<u>30.03</u>

Information about stock options that have vested, or are expected to vest, and are exercisable at September 30, 2022 was as follows:

	Number	Weighted-Average Exercise Price	Weighted-Average Remaining Life in Years	Aggregate Intrinsic Value
Options outstanding	5,339	\$ 74.40	5.6	\$ 64,895
Options vested and exercisable	3,528	65.83	4.4	58,726
Options vested and expected to vest	5,290	74.17	5.6	64,786

Other information follows:

	Year Ended September 30,		
	2022	2021	2020
Total fair value of stock options vested	\$ 18,945	\$ 19,324	\$ 17,423
Total intrinsic value of options exercised	32,709	63,667	50,059
Cash received from exercises of stock options	21,897	34,748	24,969
Excess tax benefit realized from exercise of stock options	6,472	12,364	9,399

Restricted Stock

During fiscal year 2022, Woodward granted 54 restricted stock units (“RSUs”) under its long-term incentive program as part of recent recruiting activities. The RSUs granted under this program have a weighted average grant date fair value of \$99.15 per unit and are generally scheduled to vest on the third or fourth anniversary of the respective grant dates, generally subject to recipients’ continued employment.

Stock-based compensation expense

Woodward recognizes stock-based compensation expense on a straight-line basis over the requisite service period. Pursuant to the form stock option agreements used by the Company, with terms approved by the administrator of the applicable plan, the requisite service period can be less than the four-year vesting period based on grantee’s retirement eligibility. As such, the recognition of stock-based compensation expense associated with some stock option grants can be accelerated to a period of less than four years, including immediate recognition of stock-based compensation expense on the date of grant.

Stock-based compensation expense recognized was as follows:

	Year Ended September 30,		
	2022	2021	2020
Employee stock-based compensation expense	\$ 20,109	\$ 21,475	\$ 22,903

At September 30, 2022, there was approximately \$16,261 of total unrecognized compensation expense related to non-vested stock-based compensation arrangements, including both stock options and restricted stock awards. The pre-vesting forfeiture rates for purposes of determining stock-based compensation expense recognized were estimated to be 0% for members of Woodward’s board of directors and 7.3% for all others. The remaining unrecognized compensation cost is expected to be recognized over a weighted-average period of approximately 1.8 years.

Note 22. Commitments and contingencies

Woodward enters into unconditional purchase obligation arrangements (i.e., issuance of purchase orders, obligations to transfer funds in the future for fixed or minimum quantities of goods or services at fixed or minimum prices, such as "take-or-pay" contracts) in the normal course of business to ensure that adequate levels of sourced product are available to Woodward. Future minimum unconditional purchase obligations are as follows:

<u>Year Ending September 30,</u>	
2023	\$ 464,073
2024	29,887
2025	1,305
2026	2,156
2027	—
Thereafter	662
Total	<u>\$ 498,083</u>

The U.S. Government, and other governments, may terminate any of Woodward's government contracts (and, in general, subcontracts) at their convenience, as well as for default based on specified performance measurements. If any of Woodward's government contracts were to be terminated for convenience, the Company generally would be entitled to receive payment for work completed and allowable termination or cancellation costs. If any of Woodward's government contracts were to be terminated for Woodward's default, the U.S. Government generally would pay only for the work accepted, and could require Woodward to pay the difference between the original contract price and the cost to re-procure the contract items, net of the work accepted from the original contract. The U.S. Government could also hold Woodward liable for damages resulting from the default.

Woodward is currently involved in claims, pending or threatened litigation or other legal proceedings, investigations and/or regulatory proceedings arising in the normal course of business, including, among others, those relating to product liability claims, employment matters, worker's compensation claims, contractual disputes, product warranty claims and alleged violations of various laws and regulations. Woodward accrues for known individual matters using estimates of the most likely amount of loss where it believes that it is probable the matter will result in a loss when ultimately resolved and such loss is reasonably estimable. Legal costs are expensed as incurred and are classified in "Selling, general and administrative expenses" on the Consolidated Statements of Earnings.

Woodward is partially self-insured in the United States for healthcare and worker's compensation up to predetermined amounts, above which third party insurance applies. Management regularly reviews the probable outcome of related claims and proceedings, the expenses expected to be incurred, the availability and limits of the insurance coverage, and the established accruals for liabilities.

While the outcome of pending claims, legal and regulatory proceedings, and investigations cannot be predicted with certainty, management believes that any liabilities that may result from these claims, proceedings and investigations will not have a material effect on Woodward's liquidity, financial condition, or results of operations.

In the event of a change in control of Woodward, as defined in change-in-control agreements with its current corporate officers, Woodward may be required to pay termination benefits to any such officer if such officer's employment is terminated within two years following the change of control.

Note 23. Segment information

Woodward serves the aerospace and industrial markets through its two reportable segments - Aerospace and Industrial. When appropriate, Woodward's reportable segments are aggregations of Woodward's operating segments. Woodward uses operating segment information internally to manage its business, including the assessment of operating segment performance and decisions for the allocation of resources between operating segments.

The accounting policies of the reportable segments are the same as those of the Company. Woodward evaluates segment profit or loss based on internal performance measures for each segment in a given period. In connection with that assessment, Woodward generally excludes matters such as certain charges for restructuring, interest income and expense, certain gains and losses from asset dispositions, or other non-recurring and/or non-operational related expenses.

A summary of consolidated net sales and earnings by segment follows:

	Year Ended September 30,		
	2022	2021	2020
Segment external net sales:			
Aerospace	\$ 1,519,322	\$ 1,404,117	\$ 1,590,963
Industrial	863,468	841,715	904,702
Total consolidated net sales	<u>\$ 2,382,790</u>	<u>\$ 2,245,832</u>	<u>\$ 2,495,665</u>
Segment earnings:			
Aerospace	\$ 230,933	\$ 234,356	\$ 310,137
Industrial	82,788	108,672	100,321
Nonsegment expenses	(81,092)	(64,442)	(94,530)
Interest Expense, net	(32,731)	(32,787)	(34,047)
Consolidated earnings before income taxes	<u>\$ 199,898</u>	<u>\$ 245,799</u>	<u>\$ 281,881</u>

Segment assets consist of accounts receivable, inventories, property, plant, and equipment, net, goodwill, and other intangibles, net. A summary of consolidated total assets, consolidated depreciation and amortization, and consolidated capital expenditures follows:

	Year Ended September 30,		
	2022	2021	2020
Segment assets:			
Aerospace	\$ 1,773,854	\$ 1,698,833	\$ 1,752,516
Industrial	1,380,446	1,453,423	1,529,411
Unallocated corporate property, plant and equipment, net	111,760	106,014	106,380
Other unallocated assets	540,386	832,734	515,029
Consolidated total assets	<u>\$ 3,806,446</u>	<u>\$ 4,091,004</u>	<u>\$ 3,903,336</u>
Segment depreciation and amortization:			
Aerospace	\$ 60,176	\$ 62,075	\$ 63,530
Industrial	50,584	56,885	57,444
Unallocated corporate amounts	9,868	10,564	10,184
Consolidated depreciation and amortization	<u>\$ 120,628</u>	<u>\$ 129,524</u>	<u>\$ 131,158</u>
Segment capital expenditures:			
Aerospace	\$ 23,253	\$ 17,303	\$ 26,148
Industrial	12,399	15,164	10,631
Unallocated corporate amounts	17,216	5,222	10,308
Consolidated capital expenditures	<u>\$ 52,868</u>	<u>\$ 37,689</u>	<u>\$ 47,087</u>

Sales to Raytheon Technologies were made by Woodward's Aerospace segment and totaled approximately 11% of net sales in fiscal year 2022, 9% of net sales in fiscal years 2021 and 2020. Sales to GE were made by both of Woodward's reportable segments and totaled approximately 11% of net sales in fiscal year 2022, 2021, and 2020.

Accounts receivable from Raytheon Technologies totaled approximately 6% of accounts receivable at September 30, 2022 and 5% of accounts receivable at September 30, 2021. Accounts receivable from GE totaled approximately 10% of accounts receivable at September 30, 2022 and September 30, 2021.

U.S. Government related sales from Woodward's reportable segments were as follows:

	<u>Direct U.S. Government Sales</u>	<u>Indirect U.S. Government Sales</u>	<u>Total U.S. Government Related Sales</u>
Fiscal year ended September 30, 2022			
Aerospace	\$ 93,266	\$ 433,646	\$ 526,912
Industrial	4,759	6,052	10,811
Total net external sales	<u>\$ 98,025</u>	<u>\$ 439,698</u>	<u>\$ 537,723</u>
Percentage of total net sales	<u>4%</u>	<u>19%</u>	<u>23%</u>
Fiscal year ended September 30, 2021			
Aerospace	\$ 116,832	\$ 526,118	\$ 642,950
Industrial	7,732	2,442	10,174
Total net external sales	<u>\$ 124,564</u>	<u>\$ 528,560</u>	<u>\$ 653,124</u>
Percentage of total net sales	<u>6%</u>	<u>23%</u>	<u>29%</u>
Fiscal year ended September 30, 2020			
Aerospace	\$ 149,416	\$ 536,424	\$ 685,840
Industrial	5,867	17,473	23,340
Total net external sales	<u>\$ 155,283</u>	<u>\$ 553,897</u>	<u>\$ 709,180</u>
Percentage of total net sales	<u>6%</u>	<u>22%</u>	<u>28%</u>

Item 9. Changes in and Disagreements with Accountants

There have been no disagreements or any reportable events requiring disclosure under Item 304(b) of Regulation S-K.

Item 9A. Controls and Procedures

We have established disclosure controls and procedures, which are designed to ensure that information required to be disclosed in reports filed or submitted under the Securities Exchange Act of 1934, as amended (the "Act") is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. These disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Act is accumulated and communicated to management, including our Principal Executive Officer (Charles P. Blankenship, Jr., Chairman of the Board, Chief Executive Officer and President) and Principal Financial and Accounting Officer (Mark D. Hartman, Chief Financial Officer), as appropriate, to allow timely decisions regarding required disclosures.

Charles P. Blankenship, Jr. and Mark D. Hartman evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Form 10-K. Based on their evaluations, they concluded that our disclosure controls and procedures were effective as of September 30, 2022.

There have been no significant changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the period covered by this Annual Report on Form 10-K that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting for the Company. We have evaluated the effectiveness of internal control over financial reporting using the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and, based on that evaluation, have concluded that the Company's internal control over financial reporting was effective as of September 30, 2022, the end of the Company's most recent fiscal year.

Deloitte & Touche LLP (PCAOB ID No. 34), an independent registered public accounting firm, conducted an audit of Woodward's internal control over financial reporting as of September 30, 2022 as stated in their report included in "Item 8 – Financial Statements and Supplementary Data."

Internal control over financial reporting is a process designed by, or under the supervision of, our principal executive and principal financial officers, or persons performing similar functions, and effected by our Board of Directors, management, and other personnel, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- 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 authorization of management and directors of the Company; and
- 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.

There have been no changes in our internal control over financial reporting during the fourth fiscal quarter ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

On October 18, 2022, the Company announced a streamlined Aerospace and Industrial organizational structure and leadership designed to enhance the sales experience for customers, simplify operations, and increase profitability through improved execution. In connection with the organizational changes, Sagar A. Patel, who previously served as President, Engine Systems, departed the Company effective as of such date.

In connection with his departure, on November 14, 2022, Mr. Patel entered into a Separation Agreement and Release with the Company. Pursuant to such agreement, Mr. Patel will receive a lump sum cash severance of \$1,084,400, representing the sum of (i) Mr. Patel's base salary and target annual incentive bonus under the Company's short-term annual incentive plan (the "STI Plan") for fiscal year 2023 (\$884,400), and (ii) an amount intended to partially offset the estimated costs of a relocation by Mr. Patel from the Fort Collins, Colorado area (\$200,000), as Mr. Patel had recently relocated to Colorado in connection with his appointment to President, Engine Systems. At the time of Mr. Patel's departure from the Company, he was retirement eligible and therefore will receive retirement treatment under both the STI Plan and the Company's cash long-term incentive plan (the "Cash LTI Plan") with resulting payments, if any, based on the achievement of previously established targets under each such plan. With respect to the STI Plan, if any payout is to be made under the STI Plan for fiscal year 2023, Mr. Patel will receive a prorated payout equal to 4.93% of what Mr. Patel otherwise would have earned under the STI Plan had he remained employed for the entirety of fiscal year 2023, such proration representing Mr. Patel's number of completed days in fiscal year 2023. Mr. Patel will not be entitled to any additional payouts under the STI Plan following fiscal year 2023. With respect to the Cash LTI Plan, Mr. Patel will receive payouts (if any) for three open Cash LTI performance cycles, with such payouts prorated at 68.31% for the cycle ending 2023, 34.95% for the cycle ending 2024, and 1.64% for the cycle ending 2025. In addition, consistent with the Company's standard treatment of equity awards upon a retirement, all outstanding stock options and restricted stock units previously granted to Mr. Patel will continue to vest based on the original vesting schedule, and all of his vested, unexercised stock options will continue to be exercisable for their respective remaining ten-year terms. Additionally, the Company will provide Mr. Patel a one-time payment of \$50,000, approximating the pre-tax costs of (and in lieu of providing) continued healthcare benefits for a twelve-month period. The severance benefits are conditioned upon Mr. Patel not revoking, within a seven day revocation period, the Separation Agreement and Release, which includes twelve-month non-competition and non-solicitation provisions, a full release of claims against the Company, and a non-disparagement provision.

The above description of the Agreement is qualified in its entirety by the actual terms of the Agreement, which is filed as Exhibit 10.34 to this Report on Form 10-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item relating to our directors and nominees, regarding compliance with Section 16(a) of the Securities Act of 1934, and regarding our Audit Committee is included under the captions “Proposal 1: Election of Directors,” “Board Meetings and Committees – Audit Committee” (including information with respect to audit committee financial experts), “Stock Ownership of Management,” and, “Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement related to the Annual Meeting of Stockholders to be held virtually on January 25, 2023 and is incorporated herein by reference. There have been no material changes to the procedures by which security holders may recommend nominees to our board of directors.

We have adopted a code of ethics that applies to all of our employees, including our principal executive officer and our principal financial and accounting officer. This code of ethics is posted on our Website. The Internet address for our Website is www.woodward.com, and the code of ethics may be found from our main Web page by clicking first on “Investors” and then on “Corporate Governance,” and then on “Woodward Codes of Business Conduct and Ethics.”

We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of this code of ethics by posting such information to our Website, at the address and location specified above.

Item 11. Executive Compensation

Information regarding executive compensation is under the captions “Board Meetings and Committees – Director Compensation,” “Board Meetings and Committees – Compensation Committee – Compensation Committee Interlocks and Insider Participation,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Executive Compensation” and “Board Meetings and Committees – Compensation Committee – Risk Assessment” in our Proxy Statement, and is incorporated herein by reference, except the section captioned “Compensation Committee Report on Compensation Discussion and Analysis” is hereby “furnished” and not “filed” with this Form 10-K.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information regarding security ownership of certain beneficial owners and management and related stockholder matters is under the tables captioned “Stock Ownership of Management,” “Persons Owning More Than Five Percent of Woodward Stock,” and “Executive Compensation – Equity Compensation Plan Information” in our Proxy Statement, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information set forth under “Related Person Transaction Policies and Procedures,” “Proposal 1: Election of Directors” and “Audit Committee Report to Stockholders” in our Proxy Statement and is incorporated herein by reference except the section captioned “Audit Committee Report” is hereby “furnished” and not “filed” with this Form 10-K.

Item 14. Principal Accountant Fees and Services

Information regarding principal accountant fees and services is under the captions “Audit Committee Report to Stockholders – Audit Committee’s Policy on Pre-Approval of Services Provided by Independent Registered Public Accounting Firm” and “Audit Committee Report to Stockholders – Fees Paid to Independent Registered Public Accounting Firm” in our Proxy Statement, and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

	Page Number in Form 10-K
(a) (1) Consolidated Financial Statements:	
Report of Independent Registered Public Accounting Firm	40
Consolidated Statements of Earnings for the fiscal years ended September 30, 2022, 2021, and 2020	43
Consolidated Statements of Comprehensive Earnings for the fiscal years ended September 30, 2022, 2021, and 2020	44
Consolidated Balance Sheets at September 30, 2022 and 2021	45
Consolidated Statements of Cash Flows for the fiscal years ended September 30, 2022, 2021, and 2020	46
Consolidated Statements of Stockholders' Equity for the fiscal years ended September 30, 2022, 2021, and 2020	47
Notes to Consolidated Financial Statements	48

Financial statements and schedules other than those listed above are omitted for the reason that they are not applicable, are not required, or the information is included in the financial statements or the footnotes.

- (a) (2) Exhibits Filed as Part of This Report:
 - ‡ 2.1 [Share Purchase Agreement relating to the sale and purchase of all shares in L'Orange GmbH and Fluid Mechanics LLC dated April 8, 2018, filed as Exhibit 2.1 to Quarterly Report on Form 10-Q, filed on August 8, 2018](#)
 - ‡ 3.1 [Restated Certificate of Incorporation, as amended October 3, 2007, filed as Exhibit 3\(i\) \(a\) to Annual Report on Form 10-K filed November 20, 2008](#)
 - ‡* 3.2 [Bylaws of Woodward, Inc., as amended and restated on January 11, 2020](#)
 - ‡ 3.3 [Certificate of Amendment of Certificate of Incorporation, dated January 23, 2008, filed as Exhibit 3\(i\)\(b\) to Annual Report on Form 10-K filed November 20, 2008](#)
 - ‡ 3.4 [Certificate of Amendment of the Restated Certificate of Incorporation, dated January 26, 2011, filed as Exhibit 3.1 to Current Report on Form 8-K filed January 28, 2011](#)
 - ‡ 3.5 [Certificate of Designation of Rights, Preferences and Privileges of Series B Preferred Stock](#)
 - †‡ 10.1 [Long-Term Management Incentive Compensation Plan, filed as Exhibit 10\(c\) to Annual Report on Form 10-K filed December 22, 2000](#)
 - †‡ 10.2 [Summary Description of the Woodward Variable Incentive Plan, filed as Exhibit 10.2 to Annual Report on Form 10-K filed November 16, 2016](#)
 - †‡ 10.3 [2006 Omnibus Incentive Plan, effective January 25, 2006, filed as Exhibit 4.1 to Registration Statement on Form S-8 filed April 28, 2006](#)
 - †‡ 10.4 [Amendment No. 1 to the Woodward, Inc. 2006 Omnibus Incentive Plan, effective as of January 26, 2011, filed as Exhibit 10.10 to Annual Report on Form 10-K filed November 16, 2011](#)
 - †‡ 10.5 [Form of Non-Qualified Stock Option Agreement, filed as Exhibit 10.12 to Annual Report on Form 10-K filed November 15, 2012](#)
 - †‡ 10.6 [Form of Non-Qualified Stock Option Agreement, filed as Exhibit 10.13 to Annual Report on Form 10-K filed November 14, 2013](#)

- †‡ 10.7 [2017 Omnibus Incentive Plan, effective September 14, 2016, filed as Exhibit 10.1 to Quarterly Report on Form 10-Q filed January 25, 2017](#)
- †‡ 10.8 [Form of Non-Qualified Stock Option Agreement, filed as Exhibit 10.2 to Quarterly Report on Form 10-Q filed January 25, 2017](#)
- ‡ 10.9 [Amendment No. 1 to 2008 Note Purchase Agreement, dated as of October 1, 2013, by and among the Company and the noteholders named therein, filed as Exhibit 10.2 to Current Report on Form 8-K filed October 4, 2013](#)
- ‡ 10.10 [Note Purchase Agreement, dated October 1, 2013, by and among the Company and the purchasers named therein, filed as Exhibit 10.1 to Current Report on Form 8-K filed October 4, 2013](#)
- ‡ 10.11 [Note Purchase Agreement, dated September 23, 2016, by and among the Company and the purchasers named therein, filed as Exhibit 10.20 to Annual Report on Form 10-K filed November 16, 2016](#)
- ‡ 10.12 [Note Purchase Agreement, dated September 23, 2016, by and among Woodward International Holding B.V. and the purchasers named therein, filed as Exhibit 10.21 to Annual Report on Form 10-K filed November 16, 2016](#)
- †‡ 10.13 [Form of Change in Control Agreement for the Company's principal executive officer and other executive officers, filed as Exhibit 10.25 to Annual Report on Form 10-K filed November 12, 2014](#)
- †‡ 10.14 [Executive Benefit Plan, as amended and restated as of September 18, 2013, filed as Exhibit 10.31 to Annual Report on Form 10-K filed November 14, 2013](#)
- †‡ 10.15 [Woodward Retirement Savings Plan, as amended and restated effective as of January 1, 2016, filed as Exhibit 10.1 to Quarterly Report on Form 10-Q filed February 9, 2016](#)
- †‡ 10.16 [Thomas G. Cromwell employment offer letter, dated January 30, 2019, filed as exhibit 10.1 to Quarterly Report on Form 10-Q filed May 8, 2019](#)
- ‡ 10.17 [Purchase and Sale Agreement between Woodward, Inc. and General Electric Company dated January 4, 2016 filed as Exhibit 2.1 to Current Report on Form 8-K filed January 8, 2016](#)
- ‡ 10.18 [Amended and Restated Limited Liability Company Agreement of Convergence Fuel Systems, LLC, dated January 4, 2016 filed as Exhibit 10.1 to Current Report on Form 8-K filed January 8, 2016](#)
- ‡ 10.19 [Frame Development and Purchase Agreement between MTU Friedrichshafen GmbH and L'Orange GmbH, filed as Exhibit 10.1 to Quarterly Report on Form 10-Q, filed August 8, 2018](#)
- ‡ 10.20 [Note Purchase Agreement, dated May 31, 2018, by and among Woodward, Inc. and the purchasers named therein, filed as Exhibit 10.1 to Current Report on Form 8-K, filed June 4, 2018](#)
- ‡ 10.21 [Amendment No. 1 to 2013 Note Purchase Agreement, dated as of May 31, 2018, by and among Woodward, Inc. and the noteholders names therein, filed as Exhibit 10.2 of the Company's Current Report on Form 8-K, filed June 4, 2018](#)
- ‡ 10.22 [Amendment No. 1 to 2016 Series M Note Purchase Agreement, dated as of May 31, 2018, by and among Woodward, Inc. and the noteholders names therein filed as Exhibit 10.3 of the Company's Current Report on Form 8-K, filed June 4, 2018](#)
- ‡ 10.23 [Amendment No. 1 to 2016 Series N and O Note Purchase Agreement, dated as of May 31, 2018, by and among Woodward International Holding B.V., Woodward, Inc. and the noteholders names therein, filed as Exhibit 10.4 of the Company's Current Report on Form 8-K, filed June 4, 2018](#)
- ‡ 10.24 [Amended and Restated Credit Agreement dated November 24, 2019, by and among the Company, certain foreign subsidiaries borrowers of the Company from time to time parties thereto, the institutions from time to time party thereto, as lenders, Wells Fargo Bank, National Association, as administrative agent, filed as Exhibit 10.1 on Form 10-Q, filed February 4, 2022](#)
- †‡ 10.25 [Form of Non-Qualified Stock Option Agreement filed as Exhibit 10.40 on Form 10-K, filed November 13, 2018](#)

†‡ 10.26 [Outside Director Compensation Policy filed as Exhibit 10.27 on Form 10-K, filed November 19, 2021](#)

- †‡ 10.27 [Mark D. Hartman promotion offer letter, dated July 29, 2021 filed as Exhibit 10.28 on Form 10-K, filed November 19, 2021](#)
- †‡ 10.28 [Amended and Restated Executive Severance and Change in Control Agreement filed as Exhibit 10.29 on Form 10-K, filed November 19, 2021](#)
- ‡ 10.29 [Form of Restricted Stock Unit Agreement, filed as Exhibit 10.39 on Form 10-K, filed November 13, 2018](#)
- † 10.30 [Charles Blankenship Jr. employment offer letter, dated April 18th, 2022, filed as Exhibit 10.3 to Quarterly Report on Form 10-Q, filed on May 6, 2022](#)
- * 10.31 [Second Amended and Restated Credit Agreement dated October 21, 2022, by and among the Company, certain foreign subsidiaries borrowers of the Company from time to time parties thereto, the institutions from time-to-time party thereto, as lenders, Wells Fargo Bank, National Association, as administrative agent](#)
- †* 10.32 [Second Amended and Restated Executive Severance and Change in Control Agreement](#)
- * 10.33 [Form Attraction and Retention RSU agreement, filed as exhibit 10.2 on Form 10-Q filed on May 6, 2022](#)
- †* 10.34 [Sagar A. Patel Separation and Release Agreement, dated November 14, 2022](#)
- * 21.1 [Subsidiaries](#)
- * 23.1 [Consent of Independent Registered Public Accounting Firm](#)
- * 31.1 [Rule 13a-14\(a\)/15d-14\(a\) certification of Chip P. Blankenship, Jr.](#)
- * 31.2 [Rule 13a-14\(a\)/15d-14\(a\) certification of Mark D. Hartman](#)
- * 32.1 [Section 1350 certifications](#)
- * 101.INS Inline XBRL Instance 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 Label 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)

Attached as Exhibit 101 to this report are the following materials from Woodward, Inc.'s Annual Report on Form 10-K for the year ended September 30, 2022 formatted in Inline XBRL (eXtensible Business Reporting Language): (i) the Consolidated Statements of Earnings, (ii) the Consolidated Statements of Comprehensive Earnings, (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, (v) the Consolidated Statements of Stockholders' Equity, and (vi) the Notes to the Consolidated Financial Statements.

- † Management contract or compensatory plan or arrangement.
- ‡ Incorporated by reference as an exhibit to this Report (file number 000-08408, unless otherwise indicated).
- * Filed as an exhibit to this Report.

Item 16. Form 10-K Summary

Not applicable.

SIGNATURES

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

WOODWARD, INC.

Date: November 18, 2022

/s/ Charles P. Blankenship, Jr.

Charles P. Blankenship, Jr.

*Chairman of the Board, Chief Executive Officer,
and President
(Principal Executive Officer)*

Date: November 18, 2022

/s/ Mark D. Hartman

Mark D. Hartman

*Chief Financial Officer
(Principal Financial and 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.

Signature	Title	Date
/s/ Rajeev Bhalla Rajeev Bhalla	Director	November 18, 2022
/s/ John D. Cohn John D. Cohn	Director	November 18, 2022
/s/ Paul Donovan Paul Donovan	Director	November 18, 2022
/s/ Eileen P. Drake Eileen P. Drake	Director	November 18, 2022
/s/ David Hess David Hess	Director	November 18, 2022
/s/ Charles P. Blankenship, Jr. Charles P. Blankenship, Jr.	Chairman of the Board and Director	November 18, 2022
/s/ Daniel G. Korte Daniel G. Korte	Director	November 18, 2022
/s/ Mary L. Petrovich Mary L. Petrovich	Director	November 18, 2022
/s/ Ronald M. Segal Ronald M. Segal	Director	November 18, 2022
/s/ Gregg C. Sengstack Gregg C. Sengstack	Director	November 18, 2022