



Executing Our Core Strategy

Annual Report 2023

At Barnes, we pioneer technologies that change the world.
We are One Team, One Company, One Barnes.



About Barnes

Barnes Group Inc. (NYSE: B) leverages world-class manufacturing capabilities and market-leading engineering to develop advanced processes, automation solutions, and applied technologies for industries ranging from aerospace and medical & personal care to mobility and packaging. With a celebrated legacy of pioneering excellence, Barnes delivers exceptional value to customers through advanced manufacturing capabilities and cutting-edge industrial technologies. Barnes Aerospace specializes in the production and servicing of intricate fabricated and precision-machined components for both commercial and military turbine engines, nacelles, and airframes. Barnes Industrial excels in advancing the processing, control, and sustainability of engineered plastics and delivering innovative, custom-tailored solutions for industrial automation and metal forming applications. Established in 1857 and headquartered in Bristol, Connecticut, USA, the Company has manufacturing and support operations around the globe.

Businesses at a Glance



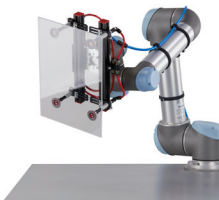
Aerospace

Manufacturer of complex fabricated and precision machined components and assemblies for the aerospace industry including spares and component repairs for the aftermarket.



Molding Solutions

Targeted portfolio of premium products and technologies serving high-quality segments of the plastic injection molding industry.



Automation

Robotic grippers, vacuum cups, advanced end-of-arm tooling systems, sensors, and other components for intelligent robotic handling solutions.



Motion Control Solutions

Next-generation solutions which enable customers to overcome challenges in the metal forming, heavy duty suspension, and industrial markets. Our high-performance products and custom systems are designed for optimum performance in less-than-ideal environments, while offering a high level of control.



Financial Highlights

Dollars in Millions; Except Per Share Amounts

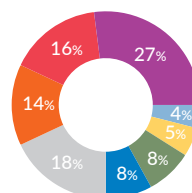
GAAP Metrics

	2023	2022	2021
Total Sales	\$1,451	\$1,262	\$1,259
Operating Profit	\$89	\$57	\$150
Operating Margin	6.1%	4.5%	11.9%
Earnings Per Share	\$0.31	\$0.26	\$1.96
Cash From Operating Activities	\$112	\$76	\$168
Total Backlog	\$1,530	\$1,020	\$905

Non-GAAP Metrics ¹

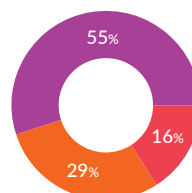
	2023	2022	2021
Organic Sales Growth ²	5.1%	4.4%	10.6%
Adjusted Operating Profit	\$167	\$146	\$151
Adjusted Operating Margin	11.5%	11.6%	12.0%
Adjusted EBITDA	\$270	\$232	\$236
Adjusted EBITDA %	18.6%	18.4%	18.8%
Adjusted Earnings Per Share	\$1.65	\$1.98	\$1.94
Adjusted Free Cash Flow ³	\$57	\$40	\$134
Free Cash Flow to Net Income Cash Conversion Ratio (As adjusted)	354%	50%	134%

End Markets



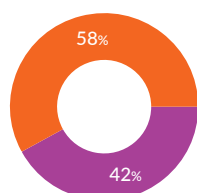
- Aerospace OEM - **\$397**
- Aerospace Aftermarket - **\$226**
- General Industrial - **\$265**
- Medical, Packaging & Personal Care - **\$202**
- Auto Molding Solutions - **\$117**
- Auto Production - **\$110**
- Tool & Die - **\$73**
- Automation - **\$61**

Geographic Region

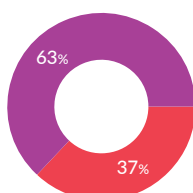


- Americas - **\$806**
- Europe - **\$428**
- Asia - **\$217**

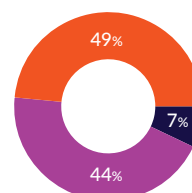
Total Sales



- Industrial Segment - **\$843**
- Aerospace Segment - **\$608**



- Aerospace OEM - **\$382**
- Aerospace Aftermarket - **\$226**



- Molding Solutions - **\$409**
- Motion Control Solutions - **\$373**
- Automation - **\$61**

NOTES:

1) Barnes sometimes uses financial information that is derived from our consolidated financial data, though not presented in accordance with U.S. generally accepted accounting principles (GAAP). Management believes that such adjustments provide the Company and its investors with an indication of our baseline performance excluding items that are not considered to be reflective of our ongoing results. Management does not intend results excluding the adjustments to represent results as defined by GAAP, and the reader should not consider it as an alternative measurement calculated in accordance with GAAP, or as an indicator of the Company's performance. Accordingly, the measurements have limitations depending on their use. For a reconciliation to the appropriate GAAP measure, see the GAAP reconciliation on page 8.

2) Organic sales growth represents the total reported sales increase within the Company's ongoing businesses less the impact of foreign currency translation and acquisition and divestitures completed in the preceding twelve months.

3) The Company defines free cash flow as net cash provided by operating activities less capital expenditures.

A Letter to Our Stakeholders

2023: Executing our Core Strategy

Barnes delivered a solid performance in 2023, making significant progress in transforming our business based on our three strategic pillars: Core Business Execution, Scale Aerospace, and Integrate, Consolidate, and Rationalize Industrial.

The acquisition of MB Aerospace, the largest acquisition in our 167-year history, is a significant milestone and strategic catalyst repositioning us to become a major global aerospace solutions provider. The addition of MB Aerospace, a highly complementary business to our portfolio, expands our geographic reach, balances our customer base, broadens our capabilities, and deepens our customer relationships.



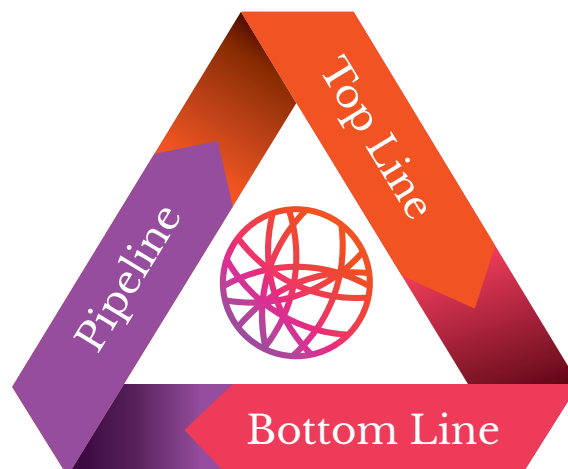
Financial Performance

In 2023, we grew revenue and improved adjusted EBITDA margin and operating cash flows. Our results reflect the strength and resilience of our business, the dedication and commitment of our global team, and the trust and support of our customers and partners. We generated revenue of \$1.45 billion, representing growth of 15% on a reported basis and 5% on an organic basis. We improved our adjusted EBITDA margin to nearly 19%, reflecting the benefits from our cost-saving efforts. Due to disciplined cost management and a focus on working capital, we significantly increased our free cash flow by 40% from the prior year to \$57 million. We delivered adjusted earnings per share of \$1.65, down 17% from the prior year, reflecting higher interest and tax expense associated with the strategic acquisition of MB Aerospace.

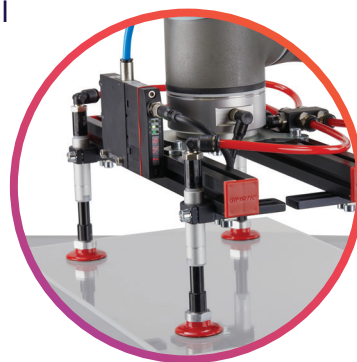
**\$1.45 Billion in
Generated Revenue**

Core Business Execution

Core Business Execution is fundamental to delivering consistent, predictable performance and driving Top Line, Bottom Line, and Pipeline growth across the Company. We continue to pursue opportunities to strengthen our direct connection with customers to drive order growth and fully leverage those opportunities through commercial and operational excellence to improve profitability. Such actions, in turn, fund future investments and enhance our sales prospects.



In 2023, we extended two long-term aerospace agreements with Safran, a leading global aerospace engine manufacturer, securing our position on key platforms and enhancing our customer relationship. In Molding Solutions, we announced a new organizational structure to fully integrate and streamline the business to drive efficiency and expand manufacturing capacity globally. We also launched several new products and solutions to address customer needs and expand our market reach. Automation refreshed its leadership structure and go-to-market strategy to propel commercial market excellence. Operationally, we continue to apply heightened cost management and working capital discipline across the organization to improve cash flow and profitability.



Scale Aerospace

In August 2023, we completed the acquisition of MB Aerospace. With core integration activities largely complete, we are now operating as “One Barnes Aerospace” and going to market as a single, unified brand, which positions us as a more attractive partner. The combined Aerospace business expands our opportunities to win additional contracts, provides differentiated service offerings across the aero-engine value chain, and adds to our defense industry exposure. To that end, we have already secured several long-term aerospace agreements with global industry leaders, including a new contract with one of the largest global engine manufacturers.

We are investing to Scale Aerospace for long-term profitable growth, which in turn supports our Core Business Execution strategy. These investments include transformation projects to increase capacity and capabilities, thus securing our ability to grow across our aerospace end markets with all customers. Furthermore, to ensure we can offer a truly global repair solution, we expanded our maintenance, repair, and overhaul (MRO) presence in Singapore and initiated planning for a new European MRO component repair facility utilizing our existing footprint in Poland.



Integrate, Consolidate, and Rationalize Industrial

We have made significant progress in Integrating, Consolidating, and Rationalizing our Industrial segment. These efforts include our restructuring program aimed at reducing our cost structure, optimizing our footprint through the closure of numerous locations, and, in early 2024, the announced sale of our Associated Spring™ and Hänggi™ businesses. With this planned divestiture, we are simplifying our Industrial segment and reducing our automotive exposure. The expected net cash proceeds will be used to reduce debt and support our leverage target goals.

We also formed the Business Transformation Office, or BTO, in 2023 to enable a more agile, responsive organization using standard tools, processes, and systems. We are experiencing solid momentum as we execute numerous transformation initiatives to fuel growth and profitability.

Corporate Citizenship at Barnes

At Barnes, we are committed to being responsible corporate citizens. Our Company Values of Integrity, Respect, Collaboration, Empowerment, and Determination guide our actions and decisions. We strive to create an inclusive and diverse work environment where everyone is treated with respect and fairness.



Our Values



Collaboration



Integrity



Empowerment

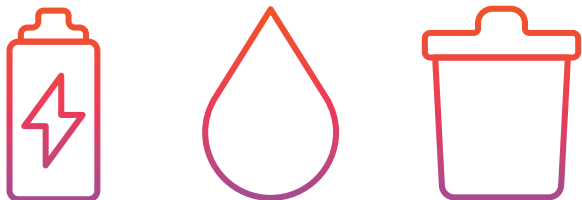


Respect



Determination

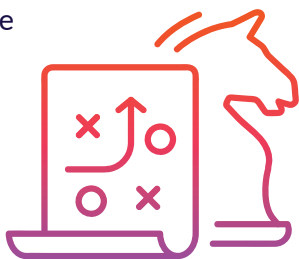
In addition, we are concerned about sustainability and reducing our environmental footprint, continuously searching for ways to lessen our energy, water usage, and waste. We stand firm in our commitments to global standards, such as the United Nations Global Compact's guiding principles, and provide transparency through our reporting according to relevant disclosures from the Global Reporting Initiative, the Sustainability Accounting Standards Board, and the Task Force on Climate-Related Financial Disclosures.



For Barnes, social responsibility entails being a supportive community resource, which is why we encourage philanthropy, compassion, and change through our Barnes Group Foundation. Founded in 1945 and funded by the Company, the Barnes Group Foundation is committed to supporting education, the arts, civic and youth activities, and health-related charities in the communities in which the Company operates. The Foundation is a private grant-making organization supported by Barnes to accomplish the Company's objective of good corporate citizenship.

Looking Ahead

We have a clear vision for Barnes, a solid strategy that we are executing to make that vision a reality, and a passionate team focused on delivering results. We are dedicated to reshaping and positioning Barnes for success by implementing our strategic priorities to maximize value for all stakeholders. The strategic actions we have taken over the last year dramatically shifted our portfolio toward higher growth and margin opportunities while increasing our exposure to more stable end markets. As we move forward, our Aerospace Segment will account for the majority of our consolidated revenues and earnings.



We have a robust path to drive growth, margin expansion, and cash flow. We are committed to a disciplined capital allocation approach focused on maintaining a healthy balance sheet through debt reduction and strategically investing in our businesses for long-term growth.

We continue to prioritize a return of capital to our shareholders through dividends, which we have paid for 90 consecutive years.

We would like to take this opportunity to thank our global team of 6,500 employees for their hard work, contributions, and dedication to the success of Barnes and its transformation. Their collaborative attitude and willingness to embrace change are the key factors that will allow us to achieve our desired outcomes.

We also extend our gratitude to our customers, partners, suppliers, and shareholders for their continuous trust and support.



Thomas O. Barnes
Chairman of the Board



Thomas J. Hook
President and Chief Executive Officer

Barnes Group Inc.
Non-GAAP Financial Measure Reconciliations
(Dollars in thousands, except per share data)
(Unaudited)

	Twelve Months Ended December 31,		
	2023	2022	2021
CONSOLIDATED RESULTS			
Operating Income (GAAP)	\$88,992	\$57,119	\$150,018
Goodwill impairment charge	-	68,194	-
Acquisition transaction costs	12,152	-	-
Divestiture transaction costs	1,174	-	-
MB Aerospace short-term purchase accounting adj.	19,192	-	-
Restructuring/reduction in force charges	45,816	20,598	967
Operating Income as adjusted (Non-GAAP)¹	\$167,326	\$145,911	\$150,985
Operating Margin (GAAP)	6.1%	4.5%	11.9%
Operating Margin as adjusted (Non-GAAP)¹	11.5%	11.6%	12.0%
Diluted Net Income per Share (GAAP)	\$0.31	\$0.26	\$1.96
Goodwill impairment charge	-	1.33	-
Foreign tax matters	-	-	(0.04)
Tax related CEO transition costs	-	0.06	-
Acquisition transaction costs	0.37	-	-
Divestiture transaction costs	0.02	-	-
MB Aerospace short-term purchase accounting adj.	0.29	-	-
Restructuring/reduction in force charges	0.66	0.33	0.02
Diluted Net Income per Share as adjusted (Non-GAAP)¹	\$1.65	\$1.98	\$1.94

NOTES:

¹ The Company has excluded the following from its historical "as adjusted" financial measurements:

2023: 1) charges related to restructuring/reduction in force actions at certain businesses and business transformation costs (consulting fees related to transformation initiatives), including \$45.8M reflected within operating profit and (\$1.1M) reflected within other expense (income), 2) acquisition transaction costs related to the acquisition of MB Aerospace, including \$12.2M reflected within operating profit and \$9.6M reflected within interest expense, 3) divestiture transaction costs related to the planned divestiture of the Associated Spring™ and Hänggi™ businesses, including \$1.2M reflected within operating profit in the fourth quarter, and 4) short-term purchase accounting adjustments related to its MB Aerospace acquisition, including \$19.2M reflected within operating profit.

2022: 1) charges related to restructuring activities and actions at certain businesses, including \$20.6M reflected within operating profit and \$1.4M reflected within other expense (income), net, 2) tax charges resulting from the CEO transition in 2022 and 3) the goodwill impairment charge recorded in the second quarter of 2022 related to the Automation reporting unit.

2021: 1) The impact of certain foreign tax matters including a benefit related to the Italy tax realignment, partially offset by a charge related to the UK tax rate and 2) charges related to restructuring actions at certain businesses.

The tax effects of these items, excluding the goodwill impairment charge recorded in 2022, which did not have a tax effect as it is not deductible for book purposes, were calculated based on the respective tax jurisdiction of each item. Management believes that these adjustments provide the Company and its investors with an indication of our baseline performance excluding items that are not considered to be reflective of our ongoing results. Management does not intend results excluding the adjustments to represent results as defined by GAAP, and the reader should not consider them as an alternative measurement calculated in accordance with GAAP, or as an indicator of the Company's performance. Accordingly, the measurements have limitations depending on their use.

FREE CASH FLOW (FCF):	2023	2022	2021
Net cash provided by operating activities	\$112,415	\$75,559	\$167,806
Capital expenditures	(55,739)	(35,082)	(34,117)
Free cash flow ²	\$56,676	\$40,477	\$133,689
Free cash flow to net income cash conversion ratio (as adjusted):			
Net income	15,996	13,479	99,873
Goodwill impairment charge	-	68,194	-
Net income (as adjusted) ³	\$15,996	\$81,673	\$99,873
Free cash flow to net income cash conversion ratio (as adjusted) ³	354%	50%	134%

NOTES:

²The Company defines free cash flow as net cash provided by operating activities less capital expenditures. The Company believes that the free cash flow metric is useful to investors and management as a measure of cash generated by business operations that can be used to invest in future growth, pay dividends, repurchase stock and reduce debt. This metric can also be used to evaluate the Company's ability to generate cash flow from business operations and the impact that this cash flow has on the Company's liquidity.

³ For the purpose of calculating the cash conversion ratio, the Company has excluded the following:

2022: The goodwill impairment charge related to the Automation reporting unit from net income.

EBITDA, EBITDA MARGIN, ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

	Twelve Months Ended December 31,		
	2023	2022	2021
Net Sales	\$1,450,871	\$1,261,868	\$1,258,846
Net Income	\$15,996	\$13,479	\$99,873
Interest expense	58,171	14,624	16,209
Other expense (income), net	(2,443)	4,310	5,992
Income taxes	17,268	24,706	27,944
Operating Profit (Loss) (GAAP)	\$88,992	\$57,119	\$150,018
Operating Margin (GAAP)	6.1%	4.5%	11.9%
Other expense (income), net	2,443	(4,310)	(5,992)
Depreciation ⁴	52,086	47,163	47,600
Amortization ⁵	63,732	44,987	43,485
EBITDA (Non-GAAP)⁶	\$207,253	\$144,959	\$235,111
EBITDA Margin (Non-GAAP)⁶	14.3%	11.5%	18.7%
Restructuring/reduction in force and transformation related charges	42,411	17,413	967
Acquisition transaction costs	12,152	-	-
MB Short-term purchase accounting adjustments	8,318	-	-
Divestiture transaction costs	1,174	-	-
Pension related (gain)/loss	(1,144)	1,417	-
Goodwill impairment charge	-	68,194	-
Adjusted EBITDA (Non-GAAP)⁶	\$270,164	\$231,983	\$236,078
Adjusted EBITDA Margin (Non-GAAP)⁶	18.6%	18.4%	18.8%

NOTES:

⁴ Depreciation expense in 2023 includes \$3.4 million of accelerated depreciation charges related to restructuring actions. Depreciation in 2022 includes \$3.2 million of similar accelerated depreciation charges.

⁵ Amortization expense in 2023 includes \$10.9 million of short-term purchase accounting adjustments related to backlog amortization, attributed to the acquisition of MB Aerospace.

⁶ The Company defines EBITDA as net income plus interest expense, income taxes, and depreciation and amortization which the Company incurs in the normal course of business; in addition to these adjustments, the Company also excludes the impact of its "as adjusted items" above ("Adjusted EBITDA"). The Company does not intend EBITDA nor Adjusted EBITDA to represent cash flows from operations as defined by GAAP, and the reader should not consider it as an alternative to net income, net cash provided by operating activities or any other items calculated in accordance with GAAP, or as an indicator of the Company's operating performance. Accordingly, the measurements have limitations depending on their use.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

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

For the fiscal year ended December 31, 2023

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

For the transition period from _____ to _____
Commission file number 1-4801

BARNES GROUP INC.

(Exact name of registrant as specified in its charter)

Delaware
(State of incorporation)
123 Main Street
Bristol
Connecticut

(Address of Principal Executive Office)



BARNES™

06-0247840
(I.R.S. Employer Identification No.)

06010
(Zip Code)

(860) 583-7070

Registrant's telephone number, including area code

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock, par value \$0.01 per share	B	New York Stock Exchange

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

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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

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

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

Large accelerated filer

Non-accelerated filer

☒

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. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

The aggregate market value of the voting stock (Common Stock) held by non-affiliates of the registrant as of the close of business on June 30, 2023 was approximately \$2,054,055,778 based on the closing price of the Common Stock on the New York Stock Exchange on that date. The registrant does not have any non-voting common equity.

The registrant had outstanding 50,696,516 shares of common stock as of February 21, 2024.

Documents Incorporated by Reference

Portions of the registrant's definitive proxy statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders to be held on May 3, 2024 are incorporated by reference into Part III.

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Barnes Group Inc.
Index to Form 10-K
Year Ended December 31, 2023

	<u>Page</u>
Part I	
Item 1. Business	1
Item 1A. Risk Factors	5
Item 1B. Unresolved Staff Comments	17
Item 1C. Cybersecurity	18
Item 2. Properties	19
Item 3. Legal Proceedings	20
Item 4. Mine Safety Disclosures	20
Part II	
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	21
Item 6. Reserved	22
Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	23
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	40
Item 8. Financial Statements and Supplementary Data	42
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	94
Item 9A. Controls and Procedures	94
Item 9B. Other Information	94
Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	94
Part III	
Item 10. Directors, Executive Officers and Corporate Governance	95
Items 11-14. Incorporated by Reference to Definitive Proxy Statement	96
Part IV	
Item 15. Exhibits, Financial Statement Schedules	97
Item 16. Form 10-K Summary	97

FORWARD-LOOKING STATEMENTS

This Annual Report may contain forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements often address our expected future operating and financial performance and financial condition, and often contain words such as "anticipate," "believe," "expect," "plan," "estimate," "project," "continue," "will," "should," "may," and similar terms. These forward-looking statements do not constitute guarantees of future performance and are subject to a variety of risks and uncertainties that may cause actual results to differ materially from those expressed in the forward-looking statements. These risks and uncertainties include, among others: the Company’s ability to manage economic, business and geopolitical conditions, including rising interest rates, global price inflation and shortages impacting the availability of materials; the duration and severity of unforeseen events such as an epidemic or a pandemic, including their impacts across our business on demand, supply chains, operations and liquidity; failure to successfully negotiate collective bargaining agreements or potential strikes, work stoppages or other similar events; changes in market demand for our products and services; rapid technological and market change; the ability to protect and avoid infringing upon intellectual property rights;

challenges associated with the introduction or development of new products or transfer of work; higher risks in global operations and markets; the impact of intense competition; the physical and operational risks from natural disasters, severe weather events, and climate change which may limit accessibility to sufficient water resources, outbreaks of contagious diseases and other adverse public health developments; acts of war, terrorism and other international conflicts; the failure to achieve anticipated cost savings and benefits associated with workforce reductions and restructuring actions; currency fluctuations and foreign currency exposure; impacts from goodwill impairment and related charges; our dependence upon revenues and earnings from a small number of significant customers; a major loss of customers; inability to realize expected sales or profits from existing backlog due to a range of factors, including changes in customer sourcing decisions, material changes, production schedules and volumes of specific programs; the impact of government budget and funding decisions; our ability to successfully integrate and achieve anticipated synergies associated with recently announced and future acquisitions, including the acquisition of MB Aerospace; government-imposed sanctions, tariffs, trade agreements and trade policies; changes or uncertainties in laws, regulations, rates, policies or interpretations that impact the Company's business operations or tax status, including those that address climate change, environmental, health and safety matters, and the materials processed by our products or their end markets; fluctuations in the pricing or availability of raw materials, freight, transportation, energy, utilities and other items required by our operations; labor shortages or other business interruptions at transportation centers, shipping ports, our suppliers' facilities or our facilities; disruptions in information technology systems, including as a result of cybersecurity attacks or data security breaches; the ability to hire and retain senior management and qualified personnel; the continuing impact of prior acquisitions and divestitures, and any ongoing and future strategic actions, and our ability to achieve the financial and operational targets set in connection with any such actions; the ability to achieve social and environmental performance goals; the outcome of pending and future litigation and governmental proceedings; the impact of actual, potential or alleged defects or failures of our products or third-party products within which our products are integrated, including product liabilities, product recall costs and uninsured claims; future repurchases of common stock; future levels of indebtedness; the impact of shareholder activism; and other risks and uncertainties described in documents filed with or furnished to the Securities and Exchange Commission ("SEC") by the Company, including, among others, those in the Management's Discussion and Analysis of Financial Condition and Results of Operations and Risk Factors sections of the Company's filings. The Company assumes no obligation to update its forward-looking statements.

PART I

Item 1. Business

BARNES GROUP INC. ⁽¹⁾

Barnes Group Inc. (the “Company” or “Barnes”) leverages world-class manufacturing capabilities and market-leading engineering to develop advanced processes, automation solutions, and applied technologies for industries ranging from aerospace and medical & personal care to mobility and packaging. The Company’s skilled and dedicated employees around the globe are committed to the highest performance standards and achieving consistent, sustainable profitable growth.

Our Strategy

The Company’s strategy has evolved to focus on three critical priorities to unlock the full potential of Barnes’ enterprise value:

Drive Core Business Execution through “Top Line, Bottom Line & Pipeline Growth.” We drive Top Line growth by identifying business activities that strengthen our direct connection with customers to increase bookings and effectively convert these into revenue. We drive Bottom Line growth by leveraging each Top Line growth opportunity using commercial excellence combined with operational productivity to generate improved profitability. This improved profitability funds future pipeline investments. We drive Pipeline growth by re-investing into product line innovation and intimate customer engagement to increase the vibrancy and attractiveness of Barnes to existing and future customers.

Scale our Aerospace Business. We made significant progress on this priority in 2023 by completing the acquisition of MB Aerospace (as defined below) in the third quarter. On a combined basis, Barnes Aerospace is now a truly global aerospace business with an expanded geographic reach, diverse capabilities, and offerings to serve markets and customers across the world. Our team has been working to integrate the organizations to drive profitable growth, maximize value, and scale the business. Additionally, Aerospace is making steady progress to increase capacity and capabilities to secure our ability to grow across our aerospace end markets with all customers.

Integrate, Consolidate & Rationalize our Industrial Business. We integrate our businesses, product lines, go-to-market strategies and processes to deliver improved effectiveness by leveraging the broad capabilities of the Company with each customer globally. We consolidate, including through the multi-phase facility consolidation projects already underway at Barnes, to improve facility utilization, better leverage manufacturing operations, and improve efficiency across the organization. We rationalize by carefully & comprehensively evaluating all operational costs and investments to focus expenditures on driving Return on Invested Capital in the most impactful manner.

These three strategic priorities will collectively work to drive transformational value creation for all Barnes stakeholders.

Structure

The Company operates under two global business segments: Aerospace and Industrial. The Aerospace segment includes the Original Equipment Manufacturing (“OEM”) business and the Aftermarket business, which includes maintenance repair and overhaul (“MRO”) services and the manufacture and delivery of aerospace aftermarket spare parts. The Industrial segment includes the Molding Solutions, Automation and Motion Control Solutions (“MCS”) business units. In January 2024, the Company announced that it entered into a Share Purchase and Asset Agreement (“SPA”) to sell its Associated Spring and Hänggi businesses, currently included within the MCS business unit. Entry into the SPA aligns with our strategy to rationalize our Industrial business through portfolio simplification. See Item 7 and Note 23 of the Consolidated Financial Statements for additional disclosure related to this planned divestiture.

⁽¹⁾ As used in this annual report, “Company,” “Barnes Group,” “we” and “our” refer to the registrant and its consolidated subsidiaries except where the context requires otherwise, and “Aerospace” and “Industrial” refer to the registrant’s segments, not to separate corporate entities.

REPORTABLE SEGMENTS

Aerospace

Aerospace is a global manufacturer of complex fabricated and precision-machined components and assemblies for turbine engines, nacelles and structures for both commercial and defense-related aircraft. The Aerospace Aftermarket business provides aircraft engine component MRO services, including services performed under our Component Repair Programs (“CRPs”), for many of the world’s major turbine engine manufacturers, commercial airlines and the defense market. The Aerospace Aftermarket business also manufactures and delivers aftermarket spare parts and participates in revenue sharing programs (“RSPs”) under which the Company has an exclusive right to supply designated aftermarket parts over the life of specific aircraft engine programs.

Aerospace’s OEM business offers a comprehensive range of in-house manufacturing solutions and capabilities, including components and assemblies. The applications for these components primarily include engines, airframes and nacelles. Aerospace OEM competes with a large number of fabrication and machining companies. Our competitive advantage is based mainly on value derived from quality, concurrent engineering and technical capability, product breadth, solutions-providing new product introduction, timeliness, service and price. Aerospace’s fabrication and machining operations, with facilities in Connecticut, Malaysia, Michigan, Ohio, Utah, Poland, the United Kingdom and Singapore, produce critical engine, nacelle and airframe components through technologically advanced manufacturing processes.

The Aerospace Aftermarket business supplements jet engine OEMs’ maintenance, repair and overhaul capabilities, and competes with the service centers of major commercial airlines and other independent service companies for the repair and overhaul of turbine engine components. The manufacture and supply of aerospace aftermarket spare parts, including those related to the RSPs, are dependent upon the reliable and timely delivery of high-quality components. Aerospace’s Aftermarket facilities, located in Connecticut, Ohio, Singapore and Taiwan, specialize in the repair and refurbishment of highly engineered components and assemblies such as cases, rotating life limited parts, rotating air seals, turbine shrouds, vanes and honeycomb air seals. Aerospace Aftermarket's facility in Malaysia is focused on the supply of spare parts. For additional information regarding net sales by geographic area, refer to Notes 3 and 21 of the Consolidated Financial Statements. Sales by Aerospace to its largest customer, General Electric ("GE"), accounted for approximately 49% of its total sales in 2023. Sales to its next four largest customers in 2023 collectively accounted for approximately 15% of its total sales.

Industrial

The Industrial segment is a global provider of highly-engineered, high-quality precision components, products and systems for critical applications serving a diverse customer base in end-markets such as industrial equipment, automation, personal care, packaging, electronics, mobility and medical devices. Focused on innovative custom solutions, Industrial participates in the design phase of components and assemblies whereby customers receive the benefits of application and systems engineering, new product development, testing and evaluation, and the manufacturing of final products. Products are sold primarily through its direct sales force and global distribution channels. Industrial's Molding Solutions business designs and manufactures customized hot runner systems, advanced mold cavity sensors and process control systems, and precision high cavitation mold assemblies - collectively, the enabling technologies for many complex injection molding applications. The Automation business designs and develops robotic grippers, advanced end-of-arm tooling systems, sensors and other automation components for intelligent robotic handling solutions and industrial automation applications. The MCS business provides innovative cost-effective force and motion control solutions for a wide range of metal forming and other industrial markets and manufactures and supplies precision mechanical products used in mobility and industrial applications, including mechanical springs, and high-precision punched and fine-blanked components.

Industrial competes with a broad base of large and small companies engaged in the manufacture and sale of engineered products, precision molds, hot runner systems, robotic handling solutions and precision components. Industrial competes on the basis of quality, service, reliability of supply, engineering and technical capability, geographic reach, product breadth, innovation, design, timeliness and price. Industrial has a global presence, with manufacturing, distribution and assembly operations in the United States, China, Germany, Italy, Sweden and Switzerland, among others. Industrial also has sales and service operations in the United States, China/Hong Kong, Germany, Italy and Switzerland, among others. For additional information regarding net sales by geographic area, refer to Notes 3 and 21 of the Consolidated Financial Statements. Sales by Industrial to its five largest customers accounted for approximately 10% of its sales in 2023.

RESOURCES OF THE BUSINESS

Human Capital Management

Our people are one of our greatest assets. Our skilled and dedicated employees around the globe are committed to the highest performance standards and achieving consistent, sustainable profitable growth through our Top Line, Bottom Line and Pipeline Growth efforts. At December 31, 2023, the Company had approximately 6,500 employees worldwide. Approximately 25% were in the Asia-Pacific region, approximately 45% in the Europe, Middle East and Africa region and approximately 30% in the Americas region.

The Company maintains a global Health, Safety and Environmental Affairs ("HSE") program which focuses on employee safety throughout the enterprise. Our HSE program maintains a set of HSE standards, consistent with our commitment to worker health and safety and to environmental protection, as well as with prevailing regulatory frameworks in place around the globe. All locations are required to meet local laws and regulations, or our Company's HSE standards, whichever are more stringent. We measure and monitor results using standard protocols. These results are communicated to the senior leadership team and Board of Directors on a regular basis.

The Company's long history is grounded in its core values and principles which have guided our ongoing transformation and growth. Our Company Values promote a culture of collaboration, empowerment, diversity and inclusion, and an environment providing opportunity, dignity and respect for all of our employees. Grounded in these values, we manage human capital through our Talent Management System ("TMS"). TMS integrates our key human resource processes and tools to facilitate talent management decisions and enables the Company to have the right people with the right skills in the right roles at the right time. TMS enhances our ability to attract and hire talented employees, as well as supports their growth, development and engagement - empowering them to perform at their very best, every day. Aligned with our vision, TMS helps accelerate the ongoing transformation of our Company, drive business performance, and support the successful execution of the Company's growth strategy.

The TMS framework focuses on five key areas (pillars) - Attract, Perform, Develop, Engage and Recognize – all supported by tools and processes that our employees, managers and leaders can use to support their own professional growth and development, as well as leverage to make better talent management decisions that promote and cultivate an agile, high performance organization.

Attract – encompasses the processes and tools available to employees and management that support and facilitate the planning and effective recruiting, hiring and on-boarding of our employees.

Perform – highlights the processes and tools that help our employees fully leverage and utilize their skills and capabilities to perform at their best and contribute meaningfully to achieving the goals and objectives of the business.

Develop – comprises the Human Resource processes and tools that support the growth and development of our employees through on-going training, skill-building, assessment, career planning and development, and enrichment opportunities.

Engage – contains Human Resource programs and tools that support employee engagement and involvement across the Company and in the communities in which our employees work and live.

Recognize – aligned with our “pay-for-performance” philosophy, highlights Human Resource processes and programs used to recognize and reward our employees and facilitate their on-going engagement. Furthermore, our compensation programs are designed to align the compensation of our employees with the Company's performance, and provide the proper incentives to attract, retain and motivate employees to achieve superior results for both short-term and long-term performance.

In managing our global businesses, and as part of TMS, we focus on several human capital measures and objectives including those related to the hiring, performance, succession planning and retention of our employees. We accomplish this through the effective utilization of our robust digital platforms and tools, and the ongoing commitment and engagement of the

senior leadership team – all with a view of identifying and developing the next generation workforce, the future leaders of the Company and promoting a high-performing organization.

Intellectual Property

Patents and other proprietary rights, including trade secrets, unpatented know-how such as know-how related to manufacturing processes, and continuing technological innovations, are important to our business. We own a large portfolio of patents, trademarks and trade names and are a party to certain intellectual property licenses that enhance our competitive position. While we consider them to be valuable assets, we do not believe that any of these patents, trademarks, licenses or other intellectual property rights is individually significant to the Company or either of our segments. We maintain procedures to protect our intellectual property. For a discussion of certain risks related to the Company's intellectual property, see "Part I, Item 1A. Risk Factors - Risks Related to Intellectual Property."

Regulatory Capital Expenditures

The Company's efforts to comply with numerous federal, state and local laws and regulations applicable to its business and products often result in capital expenditures. The Company makes capital expenditures to design and upgrade its aerospace and industrial products to comply with or exceed standards applicable to the industries we serve. The Company's ongoing HSE compliance program also results in capital expenditures. Regulatory and HSE considerations are a part of significant capital expenditure decisions; however, expenditures during 2023 related solely to regulatory compliance were not material.

Raw Materials

The principal raw materials used to manufacture our products are various grades and forms of steel, from rolled steel bars, plates and sheets, to high-grade valve steel wires and sheets, various grades and forms (bars, sheets, forgings, castings and powders) of stainless steels, aluminum alloys, titanium alloys, copper alloys, graphite, and iron-based, nickel-based (Inconels) and cobalt-based (Hastelloys) superalloys for complex aerospace applications. Prices for steel, titanium, Inconel, Hastelloys, as well as other specialty materials, have periodically increased due to higher demand and, in some cases, reduction of the availability of materials. During portions of fiscal year 2023, for example, the Company experienced increased commodity and component prices and, in some instances, shortages due to supply chain disruptions, labor shortages, increased demand and other factors associated with the Russia-Ukraine war. The Company expects continued volatility in the availability and prices for commodities and raw materials that we use in our products and in our supply chain in fiscal year 2024.

SEASONALITY

No material portion of our business is considered to be seasonal.

EXECUTIVE OFFICERS OF THE COMPANY

For information regarding the Executive Officers of the Company, see Part III, Item 10 of this Annual Report.

GOVERNMENTAL REGULATIONS AND ENVIRONMENTAL MATTERS

We are subject to numerous environmental, legal, and regulatory requirements related to our products and global operations. For a discussion of the risks associated with these requirements, see "Part I - Item 1A - Risk Factors."

We are subject to laws and regulations related to anti-corruption such as the U.S. Foreign Corrupt Practices Act, data privacy and security laws, such as the European Union's General Data Protection Regulation, and regulations relating to import-export control. A portion of our products, including defense-related products, may require governmental licenses. Additionally, our U.S. government contracts are generally subject to Federal Acquisition Regulations ("FAR"), agency-specific regulations that implement or supplement FAR, and other applicable laws and regulations which impose a broad range of requirements, many of which are unique to government contracting. These include various procurement, import and export, security, disclosure of cost and pricing data, contract termination and adjustment, and audit requirements.

Our products and operations, including past and present business operations and, past and present ownership and operations of real property, are subject to a variety of extensive and changing U.S. federal, state, local, and non-U.S. environmental, health and safety laws and regulations concerning, among other things, the health and safety of our employees; product safety, packaging and labeling; the generation, storage, use, transportation and disposal of certain materials (including

chemicals and hazardous materials) used in or derived from our manufacturing processes; emission or discharge of substances into the environment; and investigation and remediation of hazardous substances or materials at various sites. We use and generate hazardous substances and wastes in our operations. In addition, many of our current and former properties are or have been used for industrial purposes. Accordingly, we monitor hazardous waste management and applicable environmental permitting and reporting for compliance with applicable laws at our locations in the ordinary course of our business.

Moreover, climate change and other Environmental Safety and Governance-related ("ESG") laws, regulations, treaties, and similar initiatives and programs are being adopted and implemented throughout the world, many with which we will be required to comply. We are committed to maintaining compliance with ESG-related laws applicable to our operations and products. We endeavor to meet this commitment through our global HSE program described above, and an approach to ethical standards and strong governance that are foundational to our business.

AVAILABLE INFORMATION

The Company maintains a website (www.onebarnes.com) and our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports are available without charge on our website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission ("SEC"). In addition, we have posted on our website, and will make available in print to any stockholder who makes a request, our Corporate Governance Guidelines, our Code of Business Ethics and Conduct ("Code"), and the charters of the Audit Committee, Compensation and Management Development Committee and Corporate Governance Committee (the responsibilities of which include serving as the nominating committee) of the Company's Board of Directors. We post in the Governance section of the Investor Relations page of our website information regarding any amendment to, or waiver from, the provisions of the Code to the extent such disclosure is required. References to our website in this Annual Report are provided as a convenience and do not constitute, and should not be viewed as, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this Annual Report.

Item 1A. Risk Factors

Our business, financial condition, results of operations and/or cash flows could be materially and adversely affected by any of the following risks. Our business could also be affected by additional risks that are not presently known to us or that we currently consider to be immaterial. The below risks should be read in conjunction with Part II - Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations."

RISKS RELATED TO OUR BUSINESSES AND THE INDUSTRIES WITHIN WHICH WE OPERATE

We depend on revenues and earnings from a small number of significant customers. Any bankruptcy of or loss of or cancellation, reduction or delay in purchases by these customers could harm our business. Net sales to GE and its subsidiaries in 2023 accounted for 21% of our total sales and approximately 49% of Aerospace's net sales. Approximately 15% of Aerospace's net sales in 2023 were to its next four largest customers. Approximately 10% of Industrial's sales in 2023 were to its five largest customers. Some of our success will depend on the business strength and viability of those customers. We cannot assure you that we will be able to retain our largest customers. Some of our customers may in the future reduce their purchases due to economic conditions or shift their purchases from us to our competitors, in-house or to other sources. Some of our long-term sales agreements provide that the customer may unilaterally reduce or discontinue its projected purchases without penalty or terminate for convenience. The loss of one or more of our largest customers, any reduction, cancellation or delay in sales to these customers (including a reduction in aftermarket volume in our Aerospace Aftermarket business' Revenue Sharing Programs), our inability to successfully develop relationships with new customers, or future price concessions we make to retain customers could significantly reduce our sales and profitability.

We may not recover all of our up-front costs related to new or existing programs. New programs may require significant up-front investments for capital equipment, engineering, inventory, design and tooling. As OEMs in the transportation and aerospace industries have looked to suppliers to bear increasing responsibility for the design, engineering and manufacture of systems and components, they have increasingly shifted the financial risk associated with those responsibilities to the suppliers as well. This trend may continue and is most evident in the area of engineering cost reimbursement. We cannot assure you that we will have adequate funds to make such up-front investments or to recover such costs from our customers as part of our product pricing or through sales volume. In such event, our profitability, liquidity and cash flows may be adversely affected. In addition, we incur costs and make capital expenditures for new program awards based upon certain estimates of production volumes and production complexity. While we attempt to recover such costs and capital expenditures by appropriately pricing our products, the prices of our products are based in part upon planned production volumes. If the actual production is significantly less than planned or significantly more complex than anticipated, we may be unable to recover such

costs. In addition, because a significant portion of our overall costs is fixed, declines in our customers' production levels can adversely affect the level of our reported profits even if our up-front investments are recovered.

We may not realize all of the sales expected from our existing backlog or anticipated orders. At December 31, 2023, we had \$1,530.2 million of order backlog, the majority of which related to Aerospace OEM customers, as compared with \$1,020.3 million at the end of 2022. Of the 2023 year-end backlog, \$1,257.3 million was attributable to Aerospace and \$272.9 million was attributable to Industrial. Approximately 50% of the Company's consolidated year-end backlog is expected to be recognized during 2024, with the remainder scheduled to be recognized after 2024. There can be no assurances that the revenues projected in our backlog will be realized or, if realized, will result in profits. We consider backlog to be firm customer orders for future delivery. OEM customers may provide projections of components and assemblies that they anticipate purchasing in the future under existing programs. These projections may represent orders that are beyond lead time and are included in backlog when supported by a long term agreement. Our customers may have the right under certain circumstances or with certain penalties or consequences to terminate, reduce or defer firm orders that we have in backlog. If this occurs, we may be protected from certain costs and losses, but our sales will nevertheless be adversely affected. Although we strive to maintain strong relationships with our customers, there is an ongoing risk that orders may be canceled or rescheduled due to fluctuations in our customers' business requirements.

Also, our realization of sales from new and existing programs is inherently subject to a number of important risks and uncertainties, including whether our customers execute the launch of programs on time, or at all, the number of units that our customers actually produce, the timing of production and manufacturing insourcing decisions made by our customers. In addition, until firm orders are placed, our customers may have the right to discontinue a program or replace us with another supplier at any time without penalty. Our failure to realize sales from new and existing programs could have a material adverse effect on our net sales, results of operations and cash flows.

We face risks of cost overruns and losses on fixed-price contracts and orders in backlog. We sell certain of our products under firm, fixed-price contracts providing for a fixed price for the products regardless of the production or purchase costs incurred by us, which includes certain orders in backlog, some of which have long lead times. The cost of producing and delivering products may be adversely affected by increases in the cost of labor, materials, fuel, outside processing, freight, shipping, overhead and other factors, including manufacturing inefficiencies. Such increased costs may result in cost overruns and losses on contracts.

Original equipment manufacturers in the aerospace and transportation industries have significant pricing leverage over suppliers and may be able to achieve price reductions over time. Additionally, we may not be successful in our efforts to raise prices on our customers. While many of our customers permit periodic adjustments to pricing based on changes in component prices and other factors, we may bear the risk of price increases that occur between any such repricing or, if such repricing is not permitted, during the balance of the term of the particular customer contract. There is substantial and continuing pressure from OEMs in the aerospace and transportation industries, including automotive, to reduce the prices they pay to suppliers. We attempt to manage such downward pricing pressure, while trying to preserve our business relationships with our customers, by seeking to reduce our production costs through various measures, including purchasing raw materials and components at lower prices and implementing cost-effective process improvements. Our suppliers have periodically resisted, and in the future may resist, pressure to lower their prices and may seek to impose price increases. If we are unable to offset OEM price reductions, our profitability and cash flows could be adversely affected. In addition, OEMs have substantial leverage in setting purchasing and payment terms, including the terms of accelerated payment programs under which payments are made prior to the account due date in return for an early payment discount. OEMs can unexpectedly change their purchasing policies and/or payment practices, which could have a negative impact on our short-term working capital.

We operate in highly competitive markets. Our future growth is dependent upon our ability to bring to market competitive, and increasingly complex, new products and services that achieve market acceptance with acceptable margins. Our two global business segments compete with a number of larger and smaller companies in the markets we serve. Some of our competitors have greater financial, production, research and development, or other resources than we do. Within Aerospace, certain of our OEM customers compete with our repair and overhaul business, and some compete with us where they have the ability to manufacture the components and assemblies that we supply to them but have chosen, for capacity limitations, cost considerations or other reasons, to outsource the manufacturing to us. Our customers award business based on, among other things, price, quality, reliability of supply, service, technology and design. Our competitors' efforts to grow market share could exert downward pressure on our product pricing and margins. Our competitors may also develop products or services, or methods of delivering those products or services, that are superior to ours. In addition, our competitors may adapt more quickly than us to new technologies or evolving customer requirements. We cannot assure you that we will be able to compete successfully with our existing or future competitors.

The industries in which we operate have been experiencing consolidation, both in our suppliers and the customers we serve. Supplier consolidation is in part attributable to OEMs more frequently awarding long-term sole source or preferred supplier contracts to the most capable suppliers in an effort to reduce the total number of suppliers. If consolidation of our existing competitors or customers occurs, we would expect the competitive pressures we face to increase, and we cannot assure you that our business, financial condition, results of operations or cash flows will not be adversely impacted as a result.

Our operations focus on highly engineered components which require extensive engineering and research and development time. Moreover, our ability to develop new products and services and to compete successfully will depend, in part, on our ability to continue to make investments of significant resources. These efforts divert resources from other potential investments in our businesses, may not lead to the development of new products or services on a timely basis, and may require us to reduce costs by such means as reducing excess capacity, improving productivity, eliminating redundancies and increasing production in low-cost countries. We have invested, and expect to continue to invest, in optimizing our manufacturing footprint in low-cost countries. We cannot assure you that we will have sufficient resources to continue to make such investments or that we will be successful in maintaining our competitive position. If we are unable to differentiate our products and services or maintain a low-cost footprint, we may lose market share or be forced to reduce prices, thereby lowering our margins.

Our competitive advantage may be adversely impacted if we cannot continue to introduce new products ahead of our competition, or if our products are rendered obsolete by other products or by new, different technologies and processes. The success of our new products will depend on a number of factors, including innovation, customer acceptance, the efficiency of our suppliers in providing materials and component parts, and the performance and quality of our products relative to those of our competitors. Additionally, we may face increased or unexpected costs associated with new product introduction, including the use of additional resources such as personnel and capital. We cannot provide assurance that we will not experience new product introduction delays in the future. As we introduce new products, we may be unable to detect and correct defects in product design. Even after introduction, new or enhanced products may not satisfy customer preferences and product failures may cause customers to reject our products. As a result, these products may not achieve market acceptance and our brand image could suffer. Any such occurrences could significantly reduce our revenues, increase our operating costs, or otherwise materially and adversely affect our business, financial condition, results of operations and cash flows.

The development of new products and services presents security risks. An increasing number of our products and services are delivered with digital capabilities and the accompanying interconnected device networks, some of which include sensors, data, and advanced computing capabilities. If we are unable to manage the lifecycle cybersecurity risk in development, deployment and operation of our digital platforms and services, the possible consequences include financial loss, reputational damage, exposure to legal claims or enforcement actions, theft of intellectual property, the diminution in the value of our investment in research, development and engineering, and increased cybersecurity protection and remediation costs, which in turn could adversely affect our business, financial condition, results of operations and cash flows.

A significant portion of the sales of certain businesses within our Industrial segment are realized from the design, manufacture, distribution and service of highly-engineered and customized products and systems for plastic injection molding and plastics processing across a broad spectrum of applications. Sales volume is dependent upon the need for equipment used to produce plastic products, which may be significantly influenced by the demand for plastic products, the capital investment needs of companies in the plastic injection molding and plastics processing industries, changes in technological advances, and changes in laws or regulations such as those related to single-use plastics, product and packaging composition, and recycling. Decrease in demand for plastic products or equipment used in the production of plastic products or unfavorable developments in these industries generally could have a material adverse effect on our business, financial condition, and results of operations.

Demand for our defense-related products depends on government spending. A portion of Aerospace's sales is derived from defense markets, including single-sourced and dual-sourced sales. The defense market is largely dependent upon government budgets and is subject to governmental appropriations. Although multi-year contracts may be authorized in connection with major procurements, funds are generally appropriated on a fiscal year basis even though a program may be expected to continue for several years. Consequently, programs are often only partially funded and additional funds are committed only as further appropriations are made. We cannot assure you that maintenance of or increases in defense spending will be allocated to programs that would benefit our business. Moreover, we cannot assure you that new defense-related aircraft programs in which we participate will enter full-scale production as expected. A decrease in levels of defense spending or the government's termination of, or failure to fully fund, one or more of the contracts for the programs in which we participate, including due to a government shutdown, could have a material adverse effect on our financial position and results of operations.

The aerospace industry is highly regulated. Complications related to aerospace regulations may adversely affect the Company. A substantial portion of our income is derived from our aerospace businesses. The aerospace industry is highly regulated in the U.S. by the Federal Aviation Administration and in other countries by similar regulatory agencies. We must be certified by these agencies and, in some cases, by individual OEMs in order to engineer, produce and service systems and components used in specific aircraft models. If material authorizations or approvals are delayed, suspended or revoked, our business could be adversely affected. In the future, new or more stringent governmental regulations may be adopted or industry oversight heightened, and we may incur significant expenses to comply with any such new regulations or heightened industry oversight.

Fluctuations in the price of jet fuel, resins, energy and other raw materials and their availability may impact our operating results. Fuel costs constitute a significant portion of operating expenses for companies in the aerospace industry. Fluctuations in fuel costs could impact levels and frequency of aircraft maintenance and overhaul activities, and airlines' decisions on maintaining, deferring or canceling new aircraft purchases, in part based on the value associated with new fuel efficient technologies. Increases in fuel prices can also increase our packaging and transportation costs. Both we and our customers purchase supplies of resins, which are oil-based components used in the manufacture of certain products, and any significant increases in resin costs could adversely impact future operating results, including as a result of customers' decisions on maintaining, deferring or canceling new programs. Weather-related events, natural disasters, political disruptions or wars involving oil-producing countries, changes in governmental policy concerning aircraft fuel production, changes in refining capacity, and other unpredictable events may result in future fuel supply shortages and fuel price increases. For example, widespread disruption to oil production, refinery operations and pipeline capacity in certain areas of the U.S. can impact the price of jet fuel significantly. Geopolitical conflicts, such as conflicts in the Middle East, an important source of oil for the U.S. and other countries where we do business, and the Russia-Ukraine war, cause prices for fuel and energy to be volatile and availability to be impacted. In addition, new laws or regulations adopted in response to climate change could increase energy and transportation costs, as well as the costs of certain raw materials and components. In recent years, the costs of certain raw materials, transportation and energy necessary for our operations and the production and distribution of our products have increased significantly. While we have implemented cost containment measures and selective price increases, as well as taken other actions to offset these inflationary pressures in our supply chain, we may not be able to completely offset all the increases in our operational costs, and there could be a material adverse effect on our financial condition or results of operations.

RISKS ASSOCIATED WITH OPERATING A GLOBAL BUSINESS AND REGULATORY RISKS

Our operations depend on our global manufacturing, sales and service facilities and information systems which are subject to physical, environmental, operational and other risks that could disrupt our operations. We have a significant number of manufacturing facilities, technical service centers, and sales and distribution centers both within and outside the U.S. The global scope of our business subjects us to increased risks and uncertainties such as threats of war, terrorism and instability of governments, and economic, regulatory and legal systems in countries in which we or our customers conduct business. In addition, our customers' and suppliers' facilities, as well as our own facilities, are located in areas that may be affected by natural disasters, including earthquakes, windstorms, droughts and floods, or by limited accessibility to sufficient water resources, which could cause significant physical damage and disruption to our equipment and facilities, as well as the infrastructure of our customers and suppliers, and, in turn, could have a material adverse effect on our business, financial condition, results of operations and cash flows. Additionally, some of our manufacturing equipment and tooling is custom-made and is not readily replaceable. Loss of such equipment or tooling could have a negative impact on our manufacturing capabilities and, as a result, our financial condition, results of operations and cash flows.

A major catastrophe such as an earthquake, windstorm, drought, flood or other natural disaster, infectious disease outbreak, significant labor strikes, work stoppages, or political unrest, in any of the areas where we or our customers or key suppliers conduct operations could result in a prolonged interruption of our business. Any disruption resulting from these events could cause significant delays in the manufacture or shipment of products or the provision of repair and other services that may result in our loss of sales and customers. Although we have obtained property damage and business interruption insurance, our insurance will not cover all potential risks, and we cannot assure you that we will have adequate insurance to compensate us for all losses that result from any insured risks. Any material loss not covered by insurance could have a material adverse effect on our financial condition, results of operations and cash flows. We cannot assure you that insurance will be available in the future at a cost acceptable to us or at a cost that will not have a material adverse effect on our profitability, net income and cash flows.

The global nature of our operations subjects us to financial and regulatory risks in the countries in which we and our customers, suppliers and other business partners operate. In addition, we sell and may in the future sell our products and services to the U.S. and foreign governments and in foreign countries. As a global business, we are subject to complex laws, regulations and other conditions in the U.S. and other countries in which we operate, and associated risks, including: U.S.-imposed embargoes of sales to specific countries; foreign import controls; import regulations and duties; export regulations

(which require us to comply with stringent licensing regimes); reporting requirements regarding the use of "conflict" minerals mined from certain countries; anti-dumping regulations; unclaimed property laws; price and currency controls; dividend remittance restrictions; expropriation of assets; war, civil uprisings and riots; government instability; government-imposed economic uncertainties, such as a prolonged U.S. federal government shutdown; government contracting requirements including cost accounting standards and various procurement, security and audit requirements, as well as requirements to certify to the government compliance with these requirements; the necessity of obtaining governmental approval for new and continuing products and operations; and legal systems or decrees, laws, taxes, regulations, interpretations and court decisions that are not always fully developed and that may be retroactively or arbitrarily applied. In the past, we have inadvertently violated some of these regulations, including export regulations and regulations prohibiting sales of certain products, none of which has had or, we believe, will have a material adverse effect on our business. Any significant violations of these or other regulations in the future could result in civil or criminal sanctions, suspension of production, loss of export or other licenses, other restrictions on our operations or damage to our reputation. We may also be subject to unanticipated income taxes, excise and custom duties, import taxes, export taxes, value added taxes, or other governmental assessments, and taxes may be impacted by changes in legislation in the tax jurisdictions in which we operate. In addition, our organizational and capital structure may limit our ability to transfer funds between countries without incurring adverse tax consequences. Any of these events could result in a loss of business or other unexpected costs that could reduce sales or profits and have a material adverse effect on our financial condition, results of operations and cash flows.

We are subject to environmental laws and regulations and the risk of environmental liabilities, violations and litigation. We are subject to a variety of U.S. federal, state, local and non-U.S. environmental, health and safety laws and regulations concerning, among other things, the health and safety of our employees, the generation, storage, use, transportation and disposal of certain materials including hazardous materials, emissions or discharges of substances into the environment, and investigation and remediation of hazardous substances or materials at various sites. Our operations involve the use, primarily in our manufacturing processes, of substances subject to these laws and regulations. Our failure to comply with these laws or regulations could result in regulatory penalties, fines, and legal liabilities; suspension of production; alteration of our manufacturing; damage to our reputation; and restrictions on our operations or sales. Furthermore, environmental laws outside of the U.S. are becoming more stringent, resulting in increased costs and compliance burdens.

In addition, certain environmental laws assess liability on current or previous owners or operators of real property for the costs of investigation, removal or remediation of hazardous substances or materials at their properties or at properties from or upon which they have disposed of hazardous substances. In addition to cleanup actions brought by governmental authorities, private parties could bring personal injury or other claims based on alleged presence of, or exposure to, hazardous substances. The ultimate cost of site cleanup and timing of future cash outflows is difficult to predict, given the uncertainties regarding the extent of the required cleanup, the interpretation of applicable laws and regulations, and alternative cleanup methods.

The costs of complying with current or future environmental protection and health and safety laws and regulations, or liabilities arising from past or future releases of, or exposures to, hazardous substances, may exceed our estimates, or have a material adverse effect on our business, results of operations, financial condition, and cash flows.

Climate change, or legal, regulatory or market measures to address climate change, may materially adversely affect our financial condition and business operations. Climate change resulting from increased concentrations of greenhouse gases in the atmosphere could present risks to our future operations from natural disasters and extreme weather conditions, such as hurricanes, tornadoes, earthquakes, wildfires, droughts or flooding. Such extreme weather conditions could pose physical risks to our facilities and disrupt operation of our supply chain and may impact operational costs. The impacts of climate change on global water resources may result in water scarcity, which could in the future impact our ability to access sufficient quantities of water in certain locations and result in increased costs.

Concern over climate change will likely result in new legal or regulatory requirements designed to reduce greenhouse gas emissions and mitigate the effects of climate change. Further, our customers and the markets we serve may impose emissions reduction or other environmental standards and requirements, including plastic injection molding and plastics processing and conventional fuel-based automotive markets. As a result, we may experience increased compliance burdens and operational costs and raw material sourcing, manufacturing operations and the distribution of our products may be adversely affected. Moreover, we may not be able to timely meet these requirements due to the required level of capital investment or technological advancement. While we have been committed to continuous improvements to meet anticipated regulations and preferences, there can be no assurance that our commitments will be successful, that our products will be accepted by the market, that proposed regulations will not have a negative competitive impact or that economic returns will reflect our investments in new product development. There also continues to be a lack of consistent climate legislation, which creates economic and regulatory uncertainty. These factors may impact the demand for, or obsolescence of, certain of our products, and adversely affect our business, results of operations and financial condition.

We are committed to reducing our carbon emissions, water consumption and waste generation, which may require us to expend significant resources that could increase our operational costs. Further, there can be no assurance of the extent to which any of our commitments will be achieved, or that any future investments we make in furtherance of achieving such targets and goals will meet investor expectations or any binding or non-binding legal standards regarding sustainability performance. Moreover, we may determine that it is in the best interest of our Company and our stockholders to prioritize other business, social, governance or sustainability investments over the achievement of our current commitments based on economic, regulatory and social factors, business strategy or pressure from investors, activist groups or other stakeholders. If we are unable to meet these commitments, then we could incur adverse publicity and reaction from investors, activist groups or other stakeholders, which could adversely impact the perception of us and our products and services by current and potential customers, as well as investors, which could in turn adversely impact our business, results of operations and financial condition.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act ("FCPA") and similar worldwide anti-corruption laws and data privacy and security laws. The FCPA and similar anti-corruption laws generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business or obtaining an unfair advantage. Recent years have seen a substantial increase in the global enforcement of anti-corruption laws. Our operations outside the United States, including in developing countries, expose us to the risk of such violations. Our policies mandate compliance with these anti-corruption laws. Despite our training and compliance program, we cannot provide assurance that our internal control policies and procedures will always protect us from reckless or criminal acts committed by our employees or agents. Violations, or allegations, could damage our reputation, as well as result in substantial fines, sanctions, civil and/or criminal penalties, termination of relationships with business partners and curtailment of operations in certain jurisdictions, and as a result might materially and adversely affect our business, results of operations or financial condition.

Additionally, to conduct our operations, we regularly move data across borders, and consequently we are subject to a variety of increasingly complex and changing laws and regulations regarding privacy, data protection and data security, including those related to the collection, storage, use, transmission and protection of personal information and other customer, vendor or employee data. The interpretation and enforcement of such laws and regulations, such as the European Union's General Data Protection Regulation, continue to develop and there is significant uncertainty with respect to how compliance with these laws and regulations may evolve and the costs and complexity of future compliance. Violations could result in substantial fines, sanctions or civil penalties, and damage to our reputation and might materially and adversely affect our business, results of operations or financial condition.

International trade policies may impact demand for our products and our competitive position. Our results could be impacted by changes in tariffs, trade agreements, sanctions or other trade restrictions imposed or agreed to by the U.S. or foreign governments. For example, a government's adoption of "buy national" policies or imposition of trade regulations in response to war or other global crises could have a negative impact on our results of operations due to their impact on commodity pricing and supply chains. Trade restrictions, including withdrawal from or modification of existing trade agreements, negotiation of new trade agreements, and imposition of new (and retaliatory) tariffs against certain countries or covering certain products has the potential to adversely impact demand for our products, our costs, customers, suppliers and/or the U.S. or foreign economies or certain sectors thereof in which we compete, and impair our ability to expand our business by offering new technologies, products and services. It remains unclear what the U.S. federal government or foreign governments will or will not do in the future with respect to tariffs or other international trade agreements and policies. Trade restrictions, and changes in or uncertainty surrounding global trade policies, may adversely impact our competitive position, businesses, financial condition, results of operations and cash flows.

The global nature of our business exposes us to foreign currency fluctuations that have affected and may continue to affect our future revenues, debt levels and profitability. As noted above, we have manufacturing facilities and technical service centers, and sales and distribution centers around the world, and the majority of our foreign operations use the local currency as their functional currency. These include, among others, the Brazilian real, British pound sterling, Canadian dollar, Chinese renminbi, Czech koruna, Euro, Malaysian ringgit, Mexican peso, New Taiwan dollar, Polish zloty, Singaporean dollar, Swedish krona, and the Swiss franc. Since our financial statements are denominated in U.S. dollars, changes in currency exchange rates between the U.S. dollar and other currencies expose us to translation risk when the local currency financial statements are translated to U.S. dollars. Changes in currency exchange rates may also expose us to transaction risk. We may buy hedges in certain currencies to reduce or offset our exposure to currency exchange rate fluctuations; however, these transactions may not be adequate or effective to protect us against unfavorable exchange rate fluctuations. We have not engaged in any speculative hedging activities. Currency fluctuations have adversely impacted and may continue to adversely impact our revenues and profitability in the future.

RISKS RELATED TO SUPPLY AND MANUFACTURING

The ability of suppliers to deliver raw materials, parts and components and energy resources, and our ability to manufacture without disruption, could affect our results of operations. We use a wide range of materials (including steel, stainless steel, titanium, aluminum, Inconel, Hastelloys and other specialty materials) and components (including semiconductors and other electronic components) in the global production of our products, which come from numerous suppliers around the world. Our operations and those of our suppliers are subject to disruption for a variety of reasons, including transportation delays, work stoppages, labor shortages, price inflation, financial issues such as supplier bankruptcy, information technology failures, and hazards such as fire, earthquakes, flooding, droughts or other natural disasters, new laws or regulations, global economic or political events including terrorist attacks and war, and suppliers' allocations to other purchasers. Because not all of our business arrangements provide for guaranteed supply, and some key raw materials, parts and components and energy resources may be available only from a single supplier or a limited group of suppliers, we are subject to supply and pricing risk. For example, we expect to continue to be impacted by supply chain issues due to economic, political, geopolitical and other factors largely beyond our control, increased material costs and component shortages, supply chain disruptions and delays, and cost inflation, all of which could continue or escalate in the future. The effects of climate change, including extreme weather events, long-term changes in temperature levels, water availability, supply costs impacted by increasing energy costs, or energy costs impacted by carbon prices or offsets may exacerbate these risks. Such disruptions could interrupt our ability to manufacture certain products and result in increased pricing, and could materially and adversely affect our business, financial condition, results of operations and cash flows.

Any product liability, warranty, contractual or other claims may harm our business or otherwise adversely affect our financial condition. We are exposed to potential product liability risks that are inherent in the design, manufacture and sale of our products and the products we buy from third parties and sell to our customers, and to potential warranty, contractual or other claims. Our products are complex and may contain defects, errors, or experience failures or unsatisfactory performance, due to any number of issues, including issues in materials, design, fabrication, packaging and/or use within a system or item of equipment. Further, because of the complexity of our products, defects or errors might only be detected when the products are in use. Development of new products increases complexity and adds risk to manufacturing reliability, and increases the likelihood of product defects or errors. Risks associated with product defects are exacerbated by the fact that our customers typically integrate our products into other equipment and systems. Our products may be responsible for critical functions in our customers' products. Failure of our products to perform to specifications, or other product defects, could lead to substantial damage to the products we sell to our customers, the equipment and/or systems into which our products are integrated and to the end users of such equipment/and or systems. Such defects could give rise to warranty claims or claims under indemnification clauses in our agreements, which may range from individual customer claims to full recalls of all products in the field, and result in significant costs, including costs related to developing solutions, recalling products, inspecting, repairing or replacing defective products, writing down defective inventory, or attorney's fees and could result in the loss of sales and divert the attention of our engineering personnel from our product development efforts. In addition, defects in our products could result in failure to achieve market acceptance, a loss of participation in customer programs, a shifting of business to our competitors, and litigation or regulatory action against us, and could harm our reputation, our relationships with customers and our ability to attract new customers, as well as the perceptions of our brands. Other potential adverse impacts of product defects include shipment delays, write-offs of property, plant and equipment and intangible assets, and losses on unfavorable purchase commitments.

Moreover, the occurrence of defects may give rise to product liability claims, particularly if defects in our products or the products into which they are integrated result in personal injury or death, and could result in significant costs, expenses and losses. For example, we may be exposed to potential liability for personal injury, property damage or death as a result of the failure of an aircraft or automotive component designed, manufactured or sold by us, or the failure of an aircraft or automotive component that has been serviced by us or of the components themselves. If a product liability claim is brought against us, the cost of defending the claim could be significant, and could divert the efforts of our technical and management personnel and harm our business, even if we are successful. We may be named in product liability claims even if there is no evidence that our products caused the damage in question, and even though we may have indemnity from our customers, and such claims could result in significant costs and expenses.

We vigorously defend ourselves in connection with these matters. We cannot, however, assure you that the costs, charges and liabilities associated with these matters will not be material, or that those costs, charges and liabilities will not exceed any amounts reserved for them in our Consolidated Financial Statements. Further, while we have liability insurance for certain risks, our insurance may not cover all liabilities, including potential reputational impacts. Additionally, insurance coverage may not be available in the future on acceptable terms or at a cost acceptable to us. The above is exacerbated by the fact that our products may be used, and perform critical functions, in various high-risk applications such as aerospace, automobiles, and robotics, among others. Accordingly, defects in our products could have an adverse impact on us, on our customers and the end

users of our customers' products. If any of these risks materialize, there could be a material adverse effect on our business, results of operations and financial condition.

RISKS RELATED TO HUMAN CAPITAL

Our future success depends, in part, on our ability to continue to attract, develop, engage and retain qualified employees. Our executive officers and key management personnel are critical to driving business performance and successfully executing the Company's growth strategy. Because of the complex nature of many of our products and services, and our focus on technological and product innovations, we are generally dependent on an educated and highly skilled workforce, including our engineering talent and our sales professionals. We manage human capital through our Talent Management System, which is aimed at enhancing our ability to attract and hire talented employees, as well as supporting their growth, development and engagement; however, we cannot guarantee the system's effectiveness. Failure to attract, develop, engage and retain qualified employees, whether as a result of an insufficient number of qualified applicants, difficulty in recruiting new employees, or inadequate resources to train, integrate and retain qualified employees, could impair our ability to execute our business strategy, and could adversely affect our business, financial condition, results of operations or cash flows. In addition, while we aim to reduce the impact of the departure of employees, our operations or ability to execute our business strategy have been impacted and may continue to be impacted by the loss of employees, particularly when departures involve groups of employees, such as restructuring and workforce reduction actions. Such losses may adversely affect the Company through decreased employee morale, the loss of knowledge of departing employees, and the devotion of resources to reorganizing and reassigning job roles and responsibilities, and could increase the risk of claims or litigation from former employees.

Our business, financial condition, results of operations and cash flows could be adversely impacted by strikes or work stoppages. We employ approximately 6,500 people worldwide. Approximately 20% of these employees are covered by collective bargaining agreements, trade union agreements and/or national industry agreements. Although we believe that our relations with our employees and labor unions that represent our employees are good, and we have experienced no material strikes or work stoppages recently, we cannot assure you that we will not experience in the future these and other types of conflicts with labor unions, works councils, other groups representing employees or our employees generally, nor that any future negotiations with our labor unions will not result in significant increases in the cost of labor, including healthcare, pensions or other benefits. Any potential strikes or work stoppages, and the resulting adverse impact on our relationships with customers, could have a material adverse effect on our business, financial condition, results of operations or cash flows. Similarly, a protracted strike or work stoppage at any of our major customers, suppliers or other vendors could materially adversely affect our business.

RISKS RELATED TO INFORMATION TECHNOLOGY, CYBERSECURITY AND DATA PRIVACY

Any disruption or failure in the operation of our information systems, including from conversions or integrations of information technology ("IT") or reporting systems, could have a material adverse effect on our business, financial condition, results of operations and cash flows. Our IT systems are an integral part of our business. We depend on our IT systems to help communicate internally and externally, and to manage and support a variety of business processes and activities, such as processing orders, managing inventory, making payments, collecting accounts receivable, and storing information. In addition, our IT systems allow us to purchase, sell and ship products timely and efficiently, to maintain cost-effective operations, and to provide superior service to our customers. Moreover, we use IT systems to record, process and summarize financial information and results of operations for internal reporting purposes and to comply with regulatory financial reporting, legal and tax requirements. We periodically implement, upgrade and integrate IT systems, such as our enterprise resource planning ("ERP") and customer relationship management ("CRM") platforms across our businesses. If we experience a problem with the functioning of an important IT system as a result of the increased burden placed on our IT infrastructure or a security breach or a service issue experienced by an external third party vendor that stores or processes our data, including during system upgrades and/or new system implementations, the resulting disruptions could have an adverse effect on our business or operating results.

Increased cybersecurity requirements, vulnerabilities, threats and more sophisticated and targeted IT-related crime could pose a risk to our systems, networks, products, data and services and have a material adverse effect on our business, financial condition, results of operations and cash flows. In the ordinary course of our business, we store sensitive data, including intellectual property, our proprietary business information and that of our customers, suppliers and business partners, and personally identifiable information in our data centers and on our networks. In addition to utilizing non-cloud environments, we also leverage cloud-based systems, where data is stored and exchanged with external third party vendors. The secure maintenance and transmission of this information is critical to our business operations. Despite our security measures, our IT systems and infrastructure, including vendor-hosted systems, may be vulnerable to attacks by hackers or breached due to

employee error, malfeasance or other disruptions. These cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to IT systems to sophisticated and targeted measures known as advanced persistent threats, directed at the Company, its products, its customers and/or its third-party service providers, including cloud providers. These threats and incidents originate from many sources globally and include malwares that take the form of computer viruses, ransomware, worms, Trojan horses, spyware, adware, scareware, rogue software, and other programs that act against the computer user. Our customers are increasingly requiring cybersecurity protections, and we have incurred and may continue to incur additional costs to comply with such demands. While we deploy measures to deter, prevent, detect, respond to and mitigate these threats, including identity and access controls and vulnerability assessments, despite these efforts, cybersecurity incidents, depending on their nature and scope, could compromise our networks and the information stored there, including critical data and confidential or proprietary information (our own or that of third parties), could be accessed, altered, publicly disclosed, lost or stolen. Such incidents could remain undetected for an extended period of time, and the losses arising from such incidents could exceed our available insurance coverage for such matters. Such incidents could also disrupt our operations, impacting manufacturing production and transactional processing, and result in increased cybersecurity protection and remediation costs, legal claims or proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, theft of intellectual property, and damage our reputation, which could adversely affect our business, revenues and competitive position. Further, cybersecurity and data protection laws and regulations continue to evolve in the U.S. and worldwide. This adds compliance complexity and may increase our costs of compliance and expose us to litigation, monetary damages, regulatory enforcement actions or fines in one or more jurisdictions. In addition, as security threats continue to evolve and increase in frequency and sophistication, we will likely be required to invest in additional resources to protect the security of our IT systems.

RISKS RELATED TO INTELLECTUAL PROPERTY

We may be unable to adequately protect or enforce our intellectual property rights. Our intellectual property rights may not be sufficiently broad or otherwise may not provide us a significant competitive advantage, and patents may not be issued for pending or future patent applications owned by or licensed to us. As patents expire, we could face increased competition, which could negatively impact our business, results of operations and financial condition. Infringement of our intellectual property and other proprietary rights by a third party, or copying of our technology in countries where we do not hold patents, could result in uncompensated lost market and revenue opportunities. We cannot be certain that the measures we have implemented will prevent our intellectual property from being improperly disclosed, challenged, invalidated, or circumvented, particularly in countries where intellectual property rights are not highly developed or protected. For example, competitors may avoid infringement liability by developing non-infringing competing technologies or by effectively concealing infringement. We have spent and expect to continue to spend significant resources monitoring and enforcing our intellectual property rights and we may not be aware of or able to detect or prove infringement by third parties. Our ability to enforce our intellectual property rights is subject to litigation risks, as well as uncertainty as to the protection and enforceability of those rights in some countries. If we seek to enforce our intellectual property rights, we may be subject to claims that those rights are invalid or unenforceable, and others may seek counterclaims against us, which could have a negative impact on our business. In addition, changes in intellectual property laws or their interpretation may impact our ability to protect and assert our intellectual property rights, increase costs and uncertainties in the prosecution of patent applications and enforcement or defense of issued patents, and diminish the value of our intellectual property. If we do not protect and enforce our intellectual property rights successfully, or if they are circumvented, invalidated, or rendered obsolete by the rapid pace of technological change, it could have an adverse impact on our competitive position and our business, results of operations and financial condition.

Our employees, consultants and other parties are subject to confidentiality obligations, but this protection may be inadequate to deter or prevent misappropriation, theft, misuse, disclosure, loss or destruction of our proprietary information and/or infringement of our intellectual property. For example, employees and former employees, in particular former employees who become employees of our competitors, may misappropriate, use, publish or provide to our competitors, customers or other third parties our intellectual property, advantageous know-how or other proprietary information. Similarly, we provide access to certain of our intellectual property and other proprietary information to our direct and indirect customers and certain of our consultants who may wrongfully use or disclose such intellectual property or information. Any of these events could harm our competitive position, reduce the value of our investment in research and development and other strategic initiatives, cause us to lose business, damage our reputation, subject us to legal or regulatory proceedings, cause us to incur other loss or liability and otherwise adversely affect our business, results of operations and financial condition.

Third parties may claim that one or more of our products or services infringe their intellectual property rights. Regardless of the merit of such claims, any dispute or litigation regarding patents or other intellectual property could be costly and time-consuming to defend and resolve due to the complexity of our technology and the uncertainty of intellectual property litigation, and could divert our management and key personnel from our business operations. A claim of intellectual property infringement could force us to enter into a costly or restrictive license agreement, which might not be available under

acceptable terms or at all, require us to redesign our products, which would be costly and time-consuming, or subject us to significant damages or to an injunction against the development and sale of certain of our products or services. Our intellectual property portfolio may not be useful in asserting a counterclaim, or negotiating a license, in response to a claim of intellectual property infringement. In addition, we may face claims based on the theft or unauthorized use or disclosure of third-party trade secrets and other confidential business information. Any such incidents and claims could severely harm our business and reputation, result in significant expenses, harm our competitive position, and prevent us from selling certain products and services, all of which could have a significant adverse impact on our business, results of operations and financial condition.

RISKS RELATED TO LIQUIDITY AND OTHER RISKS

We have significant indebtedness that could affect our operations and financial condition, and our failure to meet certain financial covenants required by our debt agreements may materially and adversely affect our assets, financial position and cash flows. At December 31, 2023, we had consolidated debt obligations of \$1,290.8 million, representing approximately 49% of our total capital (indebtedness plus stockholders' equity) as of that date. Our level of indebtedness, proportion of variable rate debt obligations and the significant debt servicing costs associated with that indebtedness may adversely affect our operations and financial condition. For example, our indebtedness could require us to dedicate a substantial portion of our cash flows from operations to payments on our debt, thereby reducing the amount of our cash flows available for working capital, capital expenditures, investments in technology and research and development, acquisitions, dividends and other general corporate purposes; limit our flexibility in planning for, or reacting to, changes in the industries in which we compete; place us at a competitive disadvantage compared to our competitors, some of whom have lower debt service obligations and greater financial resources than we do; limit our ability to borrow additional funds; or increase our vulnerability to general adverse economic and industry conditions. In addition, a majority of our debt arrangements require us to maintain certain debt and interest coverage ratios and limit our ability to incur debt, make investments or undertake certain other business activities. These requirements could limit our ability to obtain future financing and may prevent us from taking advantage of attractive business opportunities. Our ability to meet the financial covenants or requirements in our debt arrangements may be affected by events beyond our control, and we cannot assure you that we will satisfy such covenants and requirements. A breach of these covenants or our inability to comply with the restrictions could result in an event of default under our debt arrangements which, in turn, could result in an event of default under the terms of our other indebtedness. Upon the occurrence of an event of default under our debt arrangements, after the expiration of any grace periods, our lenders could elect to declare all amounts outstanding under our debt arrangements, together with accrued interest, to be immediately due and payable. If this were to happen, we cannot assure you that our assets would be sufficient to repay in full the payments due under those arrangements or our other indebtedness or that we could find alternative financing to replace that indebtedness.

Conditions in the worldwide credit markets may limit our ability to expand our credit lines beyond current bank commitments. In addition, our profitability has been and may continue to be adversely affected as a result of increases in interest rates. At December 31, 2023, we and our subsidiaries had \$1,290.8 million aggregate principal amount of consolidated debt obligations outstanding, of which approximately 33% had interest rates that float with the market (not hedged against interest rate fluctuations). A 100 basis point increase in the interest rate on the floating rate debt in effect at December 31, 2023 would result in an approximate \$4.3 million annualized increase in interest expense.

A downgrade in our credit ratings could increase our cost of funding and/or adversely affect our access to funding. Our credit ratings are important to our cost and availability of capital. The major rating agencies evaluate our credit profile and assign credit ratings to us. This evaluation is based on a number of factors, which include financial strength, business and financial risk, transparency with rating agencies, and timeliness of financial reporting. Further leveraging our capital structure could result in a downgrade to our credit ratings. A downgrade to our credit rating could expose us to less favorable interest rates, harm our reputation, and make our debt less attractive to lenders. As such, failure to maintain our credit ratings could adversely affect our cost of funding and our liquidity by limiting the access to capital markets or the availability of funding from a variety of lenders.

We have significant goodwill and an impairment of our goodwill could cause a decline in our net worth. Our total assets include substantial goodwill. At December 31, 2023, our goodwill totaled \$1,183.6 million. The goodwill results from our prior acquisitions, representing the excess of the purchase price we paid over the net assets of the companies acquired. We assess whether there has been an impairment in the value of our goodwill during each calendar year or more frequently if an event or change in circumstances indicates that the fair value of a reporting unit has been reduced below its carrying value. If future operating performance at one or more of our reporting units does not meet expectations or fair values fall due to significant stock market declines, we may be required to reflect an incremental non-cash charge to operating results for goodwill impairment. During the year ended December 31, 2022, management recorded a non-cash goodwill impairment charge of \$68.2 million related to the Automation reporting unit as the estimated fair value of the reporting unit declined below its carrying value. See Note 6 of the Consolidated Financial Statements. The Company performed its annual assessment during

the second quarter of 2023 and has continued to evaluate macro-economic conditions through December 31, 2023. Based on our subsequent assessments, there was no additional impairment of goodwill during 2023. In the event there are future adverse changes in our estimated future cash flows and/or changes in key assumptions, including but not limited to discount rates, revenue growth or margins, and/or terminal growth rates, we may be required to record additional non-cash impairment charges to Automation goodwill. The recognition of an additional impairment of a significant portion of goodwill would negatively affect our results of operations and total capitalization, the effect of which could be material. See “Part II - Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Estimates.”

We may not realize all of the intangible assets related to the Aerospace Aftermarket businesses. We participate in aftermarket RSPs under which we receive an exclusive right to supply designated aftermarket parts over the life of the related aircraft engine program to our customer, GE. As consideration, we pay participation fees, which are recorded as intangible assets and are recognized as a reduction of sales over the estimated life of the related engine programs. Our total investments in participation fees under our RSPs as of December 31, 2023 equaled \$299.5 million, all of which have been paid. At December 31, 2023, the remaining unamortized balance of these participation fees was \$123.4 million.

We entered into CRPs, also with GE, which provide for, among other items, the right to sell certain aftermarket component repair services for CFM56, CF6, CF34 and LM engines directly to other customers over the life of the engine program as one of a few GE licensed suppliers. In addition, the CRPs extended certain contracts under which the Company currently provides these services directly to GE. Our total investments in CRPs as of December 31, 2023 equaled \$111.8 million, all of which have been paid. At December 31, 2023, the remaining unamortized balance of the CRPs was \$62.3 million. We recorded the CRP payments as intangible assets which are recognized as a reduction of sales over the remaining useful life of these engine programs.

The realizability of each asset is dependent upon future revenues related to the programs' aftermarket parts and services and is subject to impairment testing if circumstances indicate that its carrying amount may not be recoverable. The potential exists that actual revenues will not meet expectations due to a change in market conditions, including, for example, the replacement of older engines with new, more fuel-efficient engines or our ability to maintain market share within the aftermarket business. A shortfall in future revenues may result in the failure to realize the net amount of the investments, which could adversely affect our financial condition and results of operations. In addition, profitability could be impacted by the amortization of the participation fees and licenses, and the expiration of the international tax incentives on these programs. See “Part II - Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Estimates.”

We carry significant inventories and a loss in net realizable value could cause a decline in our net worth. At December 31, 2023, our inventories totaled \$365.2 million. Inventories are valued at the lower of cost or net realizable value based on management's judgments and estimates concerning future sales levels, quantities and prices at which such inventories will be sold in the normal course of business. Accelerating the disposal process or changes in estimates of future sales potential may necessitate future reduction to inventory values. See “Part II - Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Estimates.”

We maintain pension and other postretirement benefit plans in the U.S. and certain international locations. Our costs of providing defined benefit plans are dependent upon a number of factors, such as the rates of return on the plans' assets, interest rates, exchange rate fluctuations, future governmental regulation, global fixed income and equity prices, and our required and/or voluntary contributions to the plans. Declines in the stock market, prevailing interest rates, declines in discount rates, improvements in mortality rates and rising medical costs may cause an increase in our pension and other postretirement benefit expenses in the future and result in reductions in our pension fund asset values and increases in our pension and other postretirement benefit obligations. These changes have caused and may continue to cause a significant reduction in our net worth and without sustained growth in the pension investments over time to increase the value of the plans' assets, and depending upon the other factors listed above, we could be required to increase funding for some or all of these pension and postretirement plans.

Changes in taxation requirements could affect our financial results. Our products are subject to import and excise duties and/or sales or value-added taxes in many jurisdictions in which we operate. Increases in indirect taxes could affect our products' affordability and therefore reduce our sales. We are also subject to income tax in numerous jurisdictions in which we generate revenues. Changes in tax laws, tax rates or tax rulings may have a significant adverse impact on our effective tax rate. Among other things, our tax liabilities are affected by the mix of pretax income or loss among the tax jurisdictions in which we operate and the potential repatriation of foreign earnings to the U.S. Further, during the ordinary course of business, we are subject to examination by the various tax authorities of the jurisdictions in which we operate which could result in an unanticipated increase in taxes. Any potential changes or interpretive guidance may impact current and deferred income tax

expense and deferred tax balances for U.S. operations as well as the potential future repatriation of foreign income. The impact of any proposed changes in tax regulations may adversely affect our financial condition, results of operations and cash flow.

Changes in accounting guidance could affect our financial results. New accounting guidance that may become applicable to us from time to time, or changes in the interpretations of existing guidance, could have a significant effect on our reported results for the affected periods. Adoption of new accounting guidance could have a material impact on our financial statements and may retroactively affect the accounting treatment of transactions completed before adoption. See Note 1 of the Consolidated Financial Statements.

Actions of activist stockholders could cause us to incur substantial costs, divert management's attention and resources, and have an adverse effect on our business. From time to time, we may be subject to proposals by stockholders urging us to take certain corporate actions. Activist stockholder activity could have an adverse effect on our business as responding to proxy contests and reacting to other actions by activist stockholders can be costly and time-consuming, disrupt our operations and divert the attention of management and our employees. For example, we may be required to retain the services of various professionals to advise us on activist stockholder matters, including legal, financial, and communications advisers, the costs of which may negatively impact our future financial results. In addition, perceived uncertainties as to our future direction, strategy or leadership created as a consequence of activist stockholder initiatives may result in the loss of potential business opportunities, harm our ability to attract new investors, customers, and employees, and cause our stock price to experience periods of volatility or stagnation.

RISKS RELATED TO PORTFOLIO OPTIMIZATION AND STRATEGIC INITIATIVES

Risks associated with our portfolio optimization efforts, including as a result of restructuring, acquisitions and divestitures, may adversely affect us. As described elsewhere in this Annual Report on Form 10-K, we have been executing a comprehensive business transformation strategy to rationalize our portfolio and generate improved growth, profitability, and cash flow. These portfolio optimization efforts may expose us to unknown risks, liabilities and fluctuations in quarterly results. In addition, implementation of our portfolio optimization efforts may divert management's attention from day-to-day business operations and other business concerns or otherwise disrupt our business. Any of these risks may adversely affect our financial condition, results of operations and cash flows.

We are subject to risks relating to the acquisition of MB Aerospace. We expect to incur significant costs in connection with the integration, which may exceed those currently anticipated; and we have incurred significant additional indebtedness in connection with the acquisition, which has increased our interest expense and financial leverage. Any of the foregoing risks and uncertainties could have a material adverse effect on our business, financial condition, results of operations or cash flows and negatively impact the value of our securities. Challenges arising from our expanded operations as a result of the acquisition of MB Aerospace may affect our future results. The acquisition of MB Aerospace greatly expanded the size and complexity of our aerospace business. Our future success depends, in part, on the ability to integrate MB Aerospace with our existing aerospace business, and to anticipate and overcome challenges arising from the expansion and integration of our operations, including challenges related to expanded global operations and new manufacturing processes and products or services, and the associated costs and complexity. There can be no assurance that we will be able to anticipate or overcome all of the challenges resulting from our expanding operations or that we will be able to successfully integrate the MB Aerospace business or realize the expected benefits of the acquisitions within the intended timeframe or at all, which may cause our future results to be adversely affected.

Our restructuring and integration actions could have long-term adverse effects on our business. As we implement restructuring activities across our businesses to adjust our cost structure, we may not achieve expected cost savings from workforce reductions or restructuring activities and actual charges, costs and adjustments due to these actions may vary materially from our estimates. In addition, our consolidation and integration activities may not provide the expected benefits. Our ability to realize anticipated cost savings, synergies and revenue enhancements may be affected by a number of factors, including the following: our ability to effectively eliminate duplicative back office overhead and overlapping personnel, rationalize manufacturing capacity, synchronize IT systems, consolidate warehousing and other facilities and shift production to more economical facilities; significant cash and non-cash integration and implementation costs or charges in order to achieve those cost savings, which could offset any such savings; and our ability to avoid labor disruption in connection with these activities. In addition, delays in implementing planned restructuring, consolidation or integration activities or other productivity improvements may diminish the expected operational or financial benefits.

Our acquisition and other strategic initiatives, some of which may be outside the industries in which we currently operate, may not be successful. We have made a number of acquisitions in the past, and we anticipate that we may, from time to time, acquire additional businesses, assets or securities of companies, and enter into joint ventures and other strategic

relationships that we believe would provide a strategic fit with our businesses. These activities expose the Company to a number of risks and uncertainties, the occurrence of any of which could materially adversely affect our business, cash flows, financial condition and results of operations. A portion of the industries that we serve are mature industries. As a result, our future growth may depend in part on the successful acquisition and integration of acquired businesses into our existing operations. On the other hand, if we acquire a company that operates in an industry that is different from the ones in which we currently operate, our lack of experience with that company's industry could have a material adverse impact on our ability to manage that business and realize the benefits of that acquisition. We may not be able to identify and successfully negotiate suitable acquisitions, obtain financing on satisfactory terms, negotiate reasonable terms, properly perform due diligence and determine all the significant risks associated with a particular acquisition, avoid diversion of our management's attention from other important business activities, or obtain regulatory approvals or otherwise complete acquisitions in the future.

We could have difficulties integrating acquired businesses with our existing operations, including coordinating and consolidating separate systems, retaining market acceptance of acquired products and services, maintaining employee morale and retaining key employees, and implementing our enterprise resource planning systems and operational procedures and disciplines. Any such difficulties may make it more difficult to maintain relationships with employees, customers, business partners and suppliers. In addition, even if integration is successful, the financial performance of acquired businesses may not be as expected and there can be no assurance that we will realize anticipated benefits from our acquisitions. We cannot assure you that we will effectively assimilate the business or product offerings of acquired companies into our business or product offerings or realize anticipated operational synergies. These activities may result in difficulties, significant expense and accounting charges, disrupt our business or divert management's time and attention.

Acquisitions involve numerous other risks, including potential exposure to unknown liabilities of acquired companies and the possible loss of key employees and customers of the acquired business. Certain of the acquisition agreements by which we have acquired businesses require the former owners to indemnify us against certain liabilities related to the business operations before we acquired it. However, the liability of the former owners is limited and certain former owners may be unable to meet their indemnification responsibilities. We cannot assure you that these indemnification provisions will protect us fully or at all, and as a result we may face unexpected liabilities that adversely affect our financial condition. In connection with acquisitions or joint venture investments outside the U.S., we may enter into derivative contracts to purchase foreign currency in order to hedge against the risk of foreign currency fluctuations in connection with such acquisitions or joint venture investments, which subjects us to the risk of foreign currency fluctuations associated with such derivative contracts. Additionally, our final determinations and appraisals of the fair value of assets acquired and liabilities assumed in our acquisitions may vary materially from earlier estimates.

We continually assess the strategic fit of our existing businesses and may divest or otherwise dispose of businesses that are deemed not to fit with our strategic plan or are not achieving the desired return on investment, and we cannot be certain that our business, operating results and financial condition will not be materially and adversely affected. A successful divestiture depends on various factors, including our ability to effectively transfer liabilities, contracts, facilities and employees to any purchaser, identify and separate the intellectual property to be divested from the intellectual property that we wish to retain, reduce fixed costs previously associated with the divested assets or business, and collect the proceeds from any divestitures. In addition, if customers of the divested business do not receive the same level of service from the new owners, this may adversely affect our other businesses to the extent that these customers also purchase other products offered by us. All of these efforts require varying levels of management resources, which may divert our attention from other business operations. If we do not realize the expected benefits, our consolidated financial position, results of operations and cash flows could be negatively impacted. In addition, divestitures of businesses involve a number of risks, including significant costs and expenses, the loss of customer relationships, and a decrease in revenues and earnings associated with the divested business. Furthermore, divestitures potentially involve significant post-closing separation activities, which could involve the expenditure of material financial resources and significant employee resources. Any divestiture may result in a dilutive impact to our future earnings if we are unable to offset the dilutive impact from the loss of revenue associated with the divestiture, as well as significant write-offs, including those related to goodwill and other intangible assets, which could have a material adverse effect on our results of operations and financial condition. In January 2024, the Company announced that it entered into a definitive agreement to sell its Associated Spring and Hänggi businesses, currently included within the MCS business unit. See Item 7 and Note 23 of the Consolidated Financial Statements for additional disclosure related to this planned divestiture.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Cybersecurity Risk Management and Strategy

We maintain a data protection and cybersecurity risk management program based upon the National Institute of Standards and Technology ("NIST") Cybersecurity framework to assess, identify and manage cybersecurity risks. As part of this program, we maintain defensive network perimeter safeguards, internal mitigation and control features, continuous system and network monitoring, and contingency data protection. We also have a notification process for real-time escalation of material cyber incidents by members of our internal cybersecurity team to senior management, including our Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer and/or General Counsel, and the Board of Directors, in each case as appropriate.

As part of our risk management program, we periodically conduct penetration testing through an independent third-party assessor, as well as internal user training and tabletop exercises. We also conduct self-assessments of our cybersecurity risk management program to evaluate effectiveness and alignment with NIST standards and industry best practices. In addition, we maintain processes governing interconnections with third-party systems and annually review critical vendors' cybersecurity positions for potential risks. This process includes review of System and Organization Controls ("SOC") 1 and SOC 2 reports (as each such report is defined by the American Institute of Certified Public Accountants), and direct interaction with key vendors to assess and address risks.

We have not experienced a cybersecurity threat, including as a result of any previous cybersecurity incidents, that has materially affected or is reasonably likely to materially affect us, including our business strategy, results of operations or financial condition. However, risks from cybersecurity threats, including but not limited to exploitation of vulnerabilities, ransomware, denial of service, supply chain attacks, or other similar threats may materially affect us, including our execution of business strategy, reputation, results of operations and/or financial condition.

Cybersecurity Governance

Our cybersecurity program is managed by a global internal team that addresses potential risks, implements processes to support our cybersecurity program and responds to potential cyber incidents. The team has decades of experience with varied certifications and includes our Director of Cybersecurity who has over 25 years' experience as an IT professional engaged in network architecture and cybersecurity, and is led by our Vice President, IT, a CPA with 10 years' experience leading IT, who reports to our Senior Vice President, Chief Financial Officer. The internal team is supported by third party providers to expand coverage, expertise and responsiveness.

Annual risk assessments are performed and incorporated as part of our overall enterprise risk management process, which is overseen by our Board of Directors. As part of this process, the Board of Directors, through the Audit Committee, oversees the data protection and cybersecurity program, which includes reviewing management's risk assessments and the steps management has taken to monitor or mitigate our cybersecurity risk exposure. Management regularly provides data protection and cybersecurity reports to the Audit Committee and the Board of Directors, which include updates on cybersecurity initiatives, cybersecurity metrics and threat landscape. For more information about the cybersecurity risks we face, see "Risks Related to Information Technology, Cybersecurity and Data Privacy" in Part I - Item 1A - Risk Factors.

Item 2. Properties

Number of Facilities - Owned

<u>Location</u>	<u>Aerospace</u>	<u>Industrial</u>	<u>Other</u>	<u>Total</u>
Manufacturing:				
North America	5	4	—	9
Europe	3	8	—	11
Asia	2	1	—	3
Central and Latin America	—	2	—	2
	<u>10</u>	<u>15</u>	<u>—</u>	<u>25</u>
Non-Manufacturing:				
North America	—	1	1*	2
	<u>—</u>	<u>1</u>	<u>1</u>	<u>2</u>

* The Company's Corporate office.

Number of Facilities - Leased

<u>Location</u>	<u>Aerospace</u>	<u>Industrial</u>	<u>Other</u>	<u>Total</u>
Manufacturing:				
North America	4	2	—	6
Europe	2	4	—	6
Asia	8	4	—	12
	<u>14</u>	<u>10</u>	<u>—</u>	<u>24</u>
Non-Manufacturing:				
North America	2	9	—	11
Europe	2	27	—	29
Asia	—	23	—	23
Central and Latin America	—	3	—	3
	<u>4</u>	<u>62</u>	<u>—</u>	<u>66</u>

Item 3. Legal Proceedings

We are subject to litigation from time to time in the ordinary course of business and various other suits, proceedings and claims are pending against us and our subsidiaries. While it is not possible to determine the ultimate disposition of each of these proceedings and whether they will be resolved consistent with our beliefs, we expect that the outcome of these proceedings, individually or in the aggregate, will not have a material adverse effect on our consolidated financial position, cash flows 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

Market Information

The Company's common stock is traded on the New York Stock Exchange under the symbol "B". As of February 21, 2024, there were approximately 1,533 holders of record of the Company's common stock.

Dividends

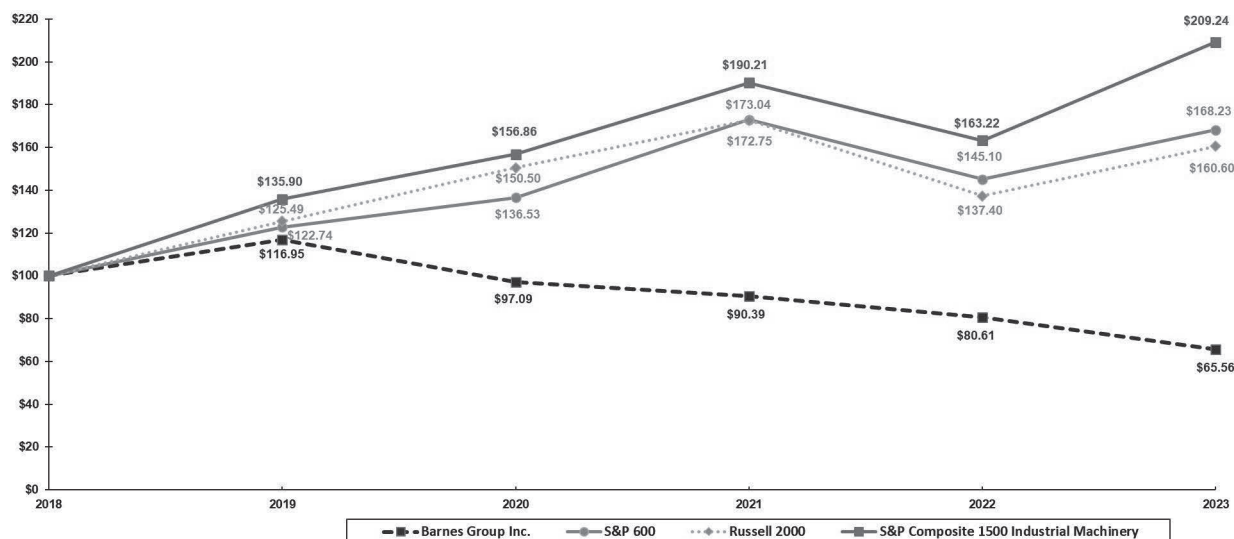
Payment of future dividends will depend upon the Company's financial condition, results of operations and other factors deemed relevant by the Company's Board of Directors, as well as any limitations resulting from financial covenants under the Company's credit facilities or debt indentures.

Securities Authorized for Issuance Under Equity Compensation Plans

For information regarding Securities Authorized for Issuance Under Equity Compensation Plans, see Part III, Item 12 of this Annual Report.

Performance Graph

A stock performance graph based on cumulative total returns (price change plus reinvested dividends) for \$100 invested in the Company on December 31, 2018 is set forth below.



	2018	2019	2020	2021	2022	2023
Barnes Group Inc.	\$100.00	\$116.95	\$97.09	\$90.39	\$80.61	\$65.56
S&P 600	\$100.00	\$122.74	\$136.53	\$173.04	\$145.10	\$168.23
Russell 2000	\$100.00	\$125.49	\$150.50	\$172.75	\$137.40	\$160.60
S&P Composite 1500 Industrial Machinery	\$100.00	\$135.90	\$156.86	\$190.21	\$163.22	\$209.24

The performance graph includes the S&P 600 Small Cap Index, the Russell 2000 Index, and the S&P 1500 Industrial Machinery Sub-Industry Index (the "S&P Machinery Index"), all of which include the Company. The S&P Machinery Index includes peer companies which operate within similar industries as Barnes.

Issuer Purchases of Equity Securities

Period	Total Number of Shares (or Units) Purchased	Average Price Paid Per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs⁽²⁾
October 1-31, 2023	179	\$ 33.25	—	3,404,000
November 1-30, 2023	1,073	\$ 22.22	—	3,404,000
December 1-31, 2023	685	\$ 31.68	—	3,404,000
Total	1,937 ⁽¹⁾	\$ 26.58	—	

- (1) All acquisitions of equity securities during the fourth quarter of 2023 were the result of the operation of the terms of the Company's stockholder-approved equity compensation plans and the terms of the equity rights granted pursuant to those plans to pay for the related income tax upon issuance of shares. The purchase price of a share of stock used for tax withholding is the market price on the date of issuance.
- (2) At March 31, 2019, 1.5 million shares of common stock had not been purchased under the publicly announced Repurchase Program (the "Program" or "Repurchase Program"). On April 25, 2019, the Board of Directors of the Company increased the number of shares authorized for repurchase under the Program by 3.5 million shares of common stock (5.0 million authorized, in total). The Program permits open market purchases, purchases under a Rule 10b5-1 trading plan and privately negotiated transactions.

Item 6. Reserved

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

The following discussion should be read in conjunction with our consolidated financial statements and related notes in this Annual Report on Form 10-K. In addition to historical information, this discussion contains forward-looking statements that involve risks, uncertainties, and assumptions that could cause actual results to differ materially from our expectations. Factors that could cause such differences include those described in the section titled "Risk Factors" and elsewhere in this report. We undertake no obligation to update any of the forward-looking statements.

Management's Discussion and Analysis of Financial Condition and Results of Operations for 2021 is included in Item 7 of the Company's Annual Report on Form 10-K for the year ended December 31, 2022, as filed with the Securities and Exchange Commission and is incorporated by reference, and should be referred to for information regarding this period.

OVERVIEW

The Company continued its strategy to evaluate its business portfolio, optimize its product offerings and transform its business during 2023. In August 2023, the Company completed its acquisition of MB Aerospace Holdings Inc., a Delaware corporation ("MB Aerospace"), along with such entity's subsidiaries by acquiring all of the issued and outstanding shares of capital stock of MB Aerospace (the "Transaction"). MB Aerospace is a leading provider of precision aero-engine component manufacture and repair services serving major aerospace and defense engine original equipment manufacturers ("OEMs"), tier 1 suppliers and maintenance, repair and overhaul ("MRO") providers. This business, which is being integrated into our Aerospace segment, provides significant growth opportunities and enhances the Company's ability to deliver value-add solutions across the aero-engine value chain. Further, the acquisition of MB Aerospace increases customer diversification within both commercial aerospace and defense platforms and provides the Company with a well-balanced portfolio across aerospace and industrial end markets. See Note 2 for a further description of the acquisition of MB Aerospace.

In January 2024, the Company announced that it has entered into a definitive agreement to sell its Associated Spring and Hänggi businesses to One Equity Partners. The transaction is valued at \$175.0 million, inclusive of a \$15.0 million promissory note due in 24 months. Expected net cash proceeds will be used to reduce debt incurred from the strategic acquisition of MB Aerospace. See Note 23 of the Consolidated Financial Statements for additional disclosure related to the planned divestiture of these businesses.

The Company recognized sales of \$1,450.9 million in 2023, an increase of \$189.0 million, or 15.0%, from 2022. Organic sales (net sales excluding foreign currency translation, acquisition and divestiture impacts) increased by \$64.5 million, or 5.1%, almost entirely driven by an increase of \$64.4 million, or 15.0%, at Aerospace, whereas Industrial was organically flat versus the prior year period. The year-over-year increase at Aerospace was driven by volume increases within both the Aerospace OEM and the Aerospace Aftermarket businesses, reflecting continued strength in aerospace end markets. The acquisition of MB Aerospace on August 31, 2023 provided incremental sales of \$114.5 million within the Aerospace segment during the four months ended December 31, 2023. From an Industrial standpoint, year-over-year organic sales were flat, driven by volume decreases that were offset by favorable pricing initiatives. The weakening of the U.S. dollar against foreign currencies increased net sales within the Industrial segment by approximately \$10.1 million. Operating income increased 55.8% from \$57.1 million in 2022 to \$89.0 million in 2023 and operating margin increased from 4.5% in 2022 to 6.1% in 2023, largely a result of favorable pricing initiatives and procurement actions taken by management, and the absence of the prior period goodwill impairment charge of \$68.2 million, partially offset by \$45.8 million of pre-tax restructuring and transformation related charges, \$13.2 million of acquisition and divestiture transaction costs, \$19.2 million of short-term purchase accounting adjustments and \$8.2 million of increased amortization costs on other acquired long-term intangible assets related to the acquisition of MB Aerospace. Pre-tax charges related to restructuring activities were \$20.6 million during the 2022 period. The profit contribution of higher volumes at Aerospace was largely offset by the profit impact of lower volumes at Industrial, combined with unfavorable productivity within Aerospace.

Impact of Macroeconomic Trends and Management Actions

In 2023, several macroeconomic trends continued to present challenges across our businesses, including labor and supply chain constraints, rising interest rates and inflationary pressures, resulting in increased labor and raw material costs. Management has taken several actions to mitigate the impacts of these events and circumstances.

Pricing actions were implemented to recover costs, and management has remained focused on cost control and productivity initiatives to mitigate these impacts. Management also continues to focus on driving core business execution through revenue growth, margin expansion, and new business development. More recently, management attention has been directed towards integrating our existing businesses, consolidating operations and facilities where appropriate, and rationalizing operational costs and investments; all with the goal of improving profitability and return on invested capital. Management is leading a systematic multi-phased initiative to significantly reduce costs and integrate the Company's operations, decreasing complexity and focusing on improved performance across Industrial. More specifically, the Company has announced restructuring programs (see Note 8 of the Consolidated Financial Statements) to further reduce costs primarily within the Industrial segment, in response to the macroeconomic disruption caused by the aforementioned items. Management also continues to evaluate the ongoing geopolitical risks, such as the Russia-Ukraine war, China-Taiwan relations and Red Sea freight disruptions, for any potential for impacts on the Company's Consolidated Financial Statements.

Historically at Barnes, acquisitions and strategic relationships with our customers have been a key growth driver for the Company and we continue to seek alliances which foster long-term business relationships. Past acquisitions have allowed us to extend into new or adjacent markets, expand our geographic reach, and commercialize new products, processes and services. The Company continually evaluates its business portfolio to optimize product offerings and maximize value based on growing our "Top Line". We have significantly transformed our business with our entrance into new markets. Recently, the Company has paused Industrial acquisitions and it is focused on driving core business execution and integrating, consolidating and rationalizing its portfolio. Consistent with our strategic objective to scale Aerospace, the Company closed on the largest acquisition in its history with the purchase of MB Aerospace in August 2023. Management in this segment is focused on the full integration of the combined businesses and leveraging the combined entity to drive growth.

The combined benefits from these initiatives collectively work to drive transformational value creation for all Barnes stakeholders.

Our Business

The Company consists of two operating segments: Aerospace and Industrial.

Key Performance Indicators

Management evaluates the performance of its reportable segments based on the sales, operating profit, operating margins and cash generation of the respective businesses. Each segment has standard key performance indicators ("KPIs"), a number of which are focused on employee safety-related metrics (total recordable incident rate and lost time incident rate), customer metrics (on-time-delivery and quality), internal effectiveness and productivity/efficiency metrics (sales effectiveness, global sourcing, operational excellence, functional excellence, cost of quality, days working capital and return on invested capital) and specific KPIs on profitable growth.

Key Industry Data

In both segments, management tracks a variety of economic and industry data as indicators of the health and outlook of a particular sector.

At Aerospace, management of the Aftermarket business monitors the number of aircraft in the active fleet, the number of aircraft temporarily or permanently taken out of service, aircraft utilization rates for the major airlines, engine shop visits, airline profitability, aircraft fuel costs and passenger traffic. The Aerospace OEM business regularly tracks orders, backlog and deliveries for each of the major aircraft manufacturers, as well as engine purchases made for new aircraft. Management also monitors annual appropriations for the U.S. defense market related to purchases of new or used aircraft and engine components.

At Industrial, key data for the manufacturing operations include the Institute for Supply Management's manufacturing PMI Composite Index (and similar indices for European and Asian-based businesses); the Bureau of Economics Industrial Production Index (the IPI); worldwide forecasts for light vehicle production, as well as new model introductions and existing model refreshes; North American heavy duty vehicle production; interconnection consulting hot runner systems worldwide report for auto, medical, personal care and packaging industries; and global GDP growth forecasts.

RESULTS OF OPERATIONS

Sales

(\$ in millions)	2023	2022	\$ Change	% Change	2021
Industrial	\$ 842.8	\$ 832.7	\$ 10.1	1.2 %	\$ 896.5
Aerospace	608.1	429.2	178.9	41.7 %	362.4
Total	\$ 1,450.9	\$ 1,261.9	\$ 189.0	15.0 %	\$ 1,258.9

The Company reported net sales of \$1,450.9 million in 2023, an increase of \$189.0 million, or 15.0%, from 2022. Organic sales increased by \$64.5 million, almost entirely driven by an increase of \$64.4 million at Aerospace, whereas Industrial was organically flat versus the prior year period. The year-over-year increase at Aerospace was driven by volume increases within both the Aerospace OEM and the Aerospace Aftermarket businesses, reflecting continued strength in aerospace end markets. The acquisition of MB Aerospace on August 31, 2023 provided incremental sales of \$114.5 million within the Aerospace segment during the four months ended December 31, 2023. From an Industrial standpoint, year-over-year organic sales were essentially flat, with year-over-year volume decreases, primarily within the Motion Control Solutions and Molding Solutions businesses, being offset by favorable pricing initiatives. Lower volumes within the Motion Control Solutions business were driven by softness in the tool and die market, partially offset by favorability within the general industrial market. The weakening of the U.S. dollar against foreign currencies increased net sales within the Industrial segment by approximately \$10.1 million. International sales increased by 9.0% year-over-year while domestic sales increased by 4.8%. Excluding the impact of foreign currency translation on sales, however, international sales in 2023 increased by 8.2%, inclusive of sales through acquisition, from 2022.

Expenses and Operating Income

(\$ in millions)	2023	2022	\$ Change	% Change	2021
Cost of sales	\$ 1,008.8	\$ 840.0	\$ 168.8	20.1 %	\$ 803.9
% sales	69.5 %	66.6 %			63.9 %
Gross profit ⁽¹⁾	\$ 442.1	\$ 421.9	\$ 20.2	4.8 %	\$ 455.0
% sales	30.5 %	33.4 %			36.1 %
Selling and administrative expenses	\$ 353.1	\$ 296.6	\$ 56.5	19.1 %	\$ 305.0
% sales	24.3 %	23.5 %			24.2 %
Goodwill impairment charge	\$ —	\$ 68.2	\$ (68.2)	NM	\$ —
% sales	— %	5.4 %			— %
Operating income	\$ 89.0	\$ 57.1	\$ 31.9	55.9 %	\$ 150.0
% sales	6.1 %	4.5 %			11.9 %

NM - Not meaningful

(1) Sales less cost of sales

Cost of sales in 2023 increased 20.1% from 2022 and gross profit margin decreased from 33.4% in the 2022 period to 30.5% in the 2023 period. Gross margins declined at Aerospace and remained flat at Industrial. Within Aerospace, higher volumes within the OEM business, in particular, contributed to an increase in gross profit during 2023. Gross profit margin decreased at Aerospace, however, given the unfavorable product mix between the OEM business and Aftermarket businesses, combined with unfavorable productivity. In addition, \$8.3 million of inventory step-up short-term purchase accounting adjustments related to the acquisition of MB Aerospace impacted gross profit margins. Within Industrial, gross profit remained flat primarily as a result of lower sales volume within each of the businesses, offset by pricing actions taken by the businesses. As well, \$13.4 million of pre-tax charges related to restructuring and transformation related actions (aggregate of \$45.8 million, including selling and administrative costs) impacted gross profit across both segments. Pre-tax charges impacting gross profit related to restructuring and workforce reduction actions during 2022 were \$3.0 million (aggregate of \$20.6 million). Selling and administrative expenses in 2023 increased 19.1% from the 2022 period. Sales, however, also increased by 15.0% between the 2023 and 2022 periods. As a percentage of sales, selling and administrative costs increased from 23.5% in 2022 to 24.3% in the 2023 period. The increase in selling and administrative costs as a percentage of sales was primarily driven by \$12.2 million of acquisition transaction costs, \$1.2 million of divestiture transaction costs, \$4.3 million of due diligence costs, \$10.9 million of short-term purchase accounting adjustments related to the acquisition of MB Aerospace and \$32.4 million of restructuring and

transformation related charges (aggregate of \$45.8 million). Pre-tax charges impacting selling and administrative costs related to restructuring and workforce reduction actions during the 2022 period were \$17.6 million (aggregate of \$20.6 million). A goodwill impairment charge of \$68.2 million related to the Automation reporting unit impacted operating results during 2022. Excluding the goodwill impairment charge, operating profit and operating margin during the 2022 period were \$125.3 million and 9.9%, respectively.

Interest expense

Interest expense in 2023 increased \$43.5 million to \$58.2 million from 2022, primarily a result of bridge loan financing fees of \$9.5 million related to the MB Aerospace acquisition (see Notes 2 and 8 to Consolidated Financial Statements), higher average borrowings, also largely related to the acquisition of MB Aerospace, and higher average interest rates during the respective periods, given the debt restructure capitalization to support the acquisition.

Other expense (income), net

Other expense (income), net in 2023 was \$(2.4) million compared to \$4.3 million in 2022. Other expense (income), net during the 2023 and 2022 periods includes other components of pension expense of \$(9.0) million and \$0.1 million, respectively. The decrease in pension relates primarily to a current period increase in discount rates, which reduced the amortization of recognized losses within Other Comprehensive Income (see Note 12 to Consolidated Financial Statements). Other expense (income), net also includes foreign currency losses of \$5.3 million and \$0.5 million in the 2023 and 2022 periods, respectively.

Income Taxes

The Company's effective tax rate was 51.9% in 2023, compared with 64.7% in 2022. The decrease in the effective tax rate in 2023 was primarily driven by the absence of the goodwill impairment charge of \$68.2 million, incurred in the second quarter of 2022, which is not tax deductible for book purposes. Excluding the goodwill impairment charge, the effective tax rate for 2022 would have been 23.2%. Additional drivers causing an increase in the effective tax rate in 2023, compared to the effective tax rate in 2022 (excluding the goodwill impairment charge), include the establishment of a valuation allowance for disallowance of interest expense under Section 163(j) as a result of increased interest expense incurred in the MB Aerospace transaction, non-deductible transaction costs incurred on the MB Aerospace transaction, and an unfavorable earnings mix. This increase is partially offset by the benefit of tax holidays in certain jurisdictions with significant earnings and the absence of a charge for disallowed expenses for covered employee's compensation incurred in 2022.

The Aerospace and Industrial segments have a number of multi-year tax holidays in China, Malaysia and Singapore. The tax benefits of the holidays were approximately \$15.2 million, \$11.5 million and \$3.2 million for the years end 2023, 2022 and 2021, respectively. The China holiday was granted in 2021 and provides for a corporate income tax of 15% for the approved businesses. The holiday runs for a three year period which ended December 31, 2023. It is anticipated that the company will re-apply for the holiday in 2024. Aerospace was granted an income tax holiday for operations recently established in Malaysia. This holiday commenced effective November 2020 (retroactively) and remains effective for a period of ten years. The Aerospace business was granted additional tax holidays in Singapore under the Pioneer program in the fourth quarter of 2022. This holiday provides reduced tax rates for certain Aerospace programs manufactured at the Singapore location and will run through December 2025. All of the holidays are subject to the Company meeting certain commitments in the respective jurisdictions.

In October 2021, the Organisation for Economic Co-operation and Development ("OECD") announced an Inclusive Framework on Base Erosion and Profit Shifting including Pillar Two Model Rules defining the global minimum tax, which calls for the taxation of large multinational corporations at a minimum rate of 15%. Subsequently multiple sets of administrative guidance have been issued. Many non-US tax jurisdictions have either recently enacted legislation to adopt certain components of the Pillar Two Model Rules beginning in 2024 with the adoption of additional components in later years or announced their plans to enact legislation in future years. We are continuing to evaluate the impacts of enacted legislation and pending legislation to enact Pillar Two Model Rules in the non-US tax jurisdictions we operate in.

In 2024, the Company expects the effective tax rate to approximate 46%, inclusive of the impacts resulting from the planned divestiture of our Associated Spring™ and Hänggi™ businesses, a decrease from the rate of 52% in 2023. The decrease is mainly due to a favorable projected earnings mix in 2024, partially offset by the impacts of the planned divestiture.

See Note 14 of the Consolidated Financial Statements for a reconciliation of the U.S. federal statutory income tax rate to the consolidated effective income tax rate.

Income and Income Per Share

<i>(in millions, except per share)</i>	2023	2022	Change	% Change	2021
Net income	\$ 16.0	\$ 13.5	\$ 2.5	18.7 %	\$ 99.9
Net income per common share:					
Basic	\$ 0.31	\$ 0.26	\$ 0.05	19.2 %	\$ 1.96
Diluted	\$ 0.31	\$ 0.26	\$ 0.05	19.2 %	\$ 1.96
Weighted average common shares outstanding:					
Basic	51.1	51.0	0.1	0.2 %	50.9
Diluted	51.2	51.1	0.1	0.2 %	51.1

Basic and diluted net income per common share increased for 2023 as compared to 2022 due to the increase in net income year over year. Basic and diluted weighted average common shares outstanding increased only slightly due to the issuance of additional shares through the Company's stockholder-approved equity compensation plans. During 2022, 200,000 shares were purchased as part of the Company's publicly announced Repurchase Program (as defined herein). No shares were purchased by the Company under this Program during 2023.

Financial Performance by Business Segment

Aerospace

<i>(\$ in millions)</i>	2023	2022	\$ Change	% Change	2021
Sales	\$ 608.1	\$ 429.2	\$ 178.9	41.7 %	\$ 362.4
Operating profit	53.0	76.2	(23.2)	(30.5)%	52.3
Operating margin	8.7 %	17.7 %			14.4 %

Aerospace recorded sales of \$608.1 million in 2023, a 41.7% increase from 2022. The year-over-year increase at Aerospace was driven by volume increases within both the Aerospace OEM and the Aerospace Aftermarket businesses, reflecting continued strength in aerospace end markets. The acquisition of MB Aerospace on August 31, 2023 provided incremental sales of \$114.5 million during the four months ended December 31, 2023. Excluding MB Aerospace, organic Aerospace sales increased 15.5% and 14.3% within the OEM and Aftermarket businesses, respectively, relative to the 2022 period. The year-over-year increase in organic OEM sales was driven primarily by continued growth within narrow-body airframe production, although wide-body airframe production began to improve during the second half of 2023. Organic sales within the Aftermarket MRO improved during 2023 relative to the comparable period as airline traffic and aircraft utilization have continued to ramp. Sales within the segment are largely denominated in U.S. dollars and therefore were not significantly impacted by changes in foreign currency.

Operating profit at Aerospace decreased 30.5% from 2022 to \$53.0 million, largely a result of transaction costs related to the August 2023 acquisition of MB Aerospace. More specifically, operating results were impacted by \$19.2 million of short-term purchase accounting adjustments (amortization of customer backlog and inventory step-up), \$12.2 million of acquisition transaction costs, \$1.6 million of due diligence costs allocated to the segment, \$8.2 million of increased amortization costs for other acquired long-term intangible assets and \$7.6 million of restructuring and transformation related charges, all related to the acquisition of MB Aerospace. Unfavorable productivity and mix given the volume growth within the OEM business also impacted operating results during 2023. The above items were partially offset by the contribution of higher organic sales volumes, inclusive of pricing, and the profit contribution of MB Aerospace sales. Operating margin decreased from 17.7% in the 2022 period to 8.7% in the 2023 period, primarily a result of the impacts of the items discussed above.

Outlook:

Sales in the Aerospace OEM business are based on the general state of the aerospace market driven by the global economy and are supported by its order backlog through participation in certain strategic commercial and defense-related engine and airframe programs. As noted earlier, the Company completed its acquisition of MB Aerospace during the third quarter of 2023. MB Aerospace represents a strategic fit for Barnes Aerospace, with highly complementary programs, global operations, technical capabilities, and product and service offerings. OEM sales grew in 2023 relative to the comparable 2022 period, as customer aircraft production schedules continue to ramp. The Company expects that the OEM business will see continued strength in demand for its manufactured components as narrow body airframe production remains strong, and wide body airframe production improves. Aerospace management continues to work with customers to evaluate engine and airframe build schedules, giving management the ability to react timely to such changes. Management is working closely with suppliers to align raw material schedules with production requirements.

Management also remains focused on labor and supply chain constraints that continue to impact the business, executing long-term agreements, and expanding our share of production on key programs. Backlog at OEM, including that of the acquired MB Aerospace business, was \$1,233.6 million at December 31, 2023, an increase of 64.5% since December 31, 2022, at which time backlog was \$750.1 million. Approximately 50% of OEM backlog is expected to be recognized over the next 12 months. The Aerospace OEM business may also be impacted by changes in the content levels on certain platforms, changes in customer sourcing decisions, adjustments to customer inventory levels, labor and commodity availability (including the availability of commodities such as titanium sourced in Russia) and pricing, vendor sourcing capacity and the use of alternate materials. Additional impacts may include the redesign of parts, quantity of parts per engine, cost schedules agreed to under contract with the engine and airframe manufacturers, as well as the pursuit and duration of new programs. Fluctuations in fuel costs, interest rates, and potential changes in regulatory requirements could impact airlines' decisions on maintaining, deferring or canceling new aircraft purchases, in part based on the value associated with new fuel-efficient technologies and targets established by airlines to reduce greenhouse gas emissions.

The Aerospace Aftermarket business continues to demonstrate strong performance as airline traffic and aircraft utilization trends remain healthy. Domestic and international passenger traffic have improved with growth forecasted throughout 2024. Freight-related air traffic remains solid. Sales in the Aerospace Aftermarket business may continue to be impacted by inventory management and changes in customer sourcing, deferred or limited maintenance activity during engine shop visits and the use of surplus (used) material during the engine repair and overhaul process. Management believes that the Aerospace Aftermarket business continues to be competitively positioned based on well-established long-term customer relationships, including maintenance and repair contracts in the MRO business and long-term Revenue Sharing Programs ("RSPs") and Component Repair Programs ("CRPs"). The MRO business may also be impacted by airlines electing to closely manage their aftermarket costs as engine performance and quality improves. Fluctuations in fuel costs, interest rates and potential changes in regulatory requirements and their corresponding impacts on airline profitability and behaviors within the aerospace industry could also impact levels and frequency of aircraft maintenance and overhaul activities, and airlines' decisions on maintaining, deferring or canceling new aircraft purchases, in part based on the economics associated with new fuel-efficient technologies. Challenges experienced by aircraft OEMs to increase the delivery of new aircraft may serve to benefit our aftermarket business as older aircraft fill the need, especially as it relates to narrow-body platforms.

The Company remains focused on proactive cost management and improved productivity to mitigate continued pressure on operating profit. The segment continued to take restructuring actions throughout the year. In September 2023, the Company authorized additional restructuring actions related to the MB Aerospace acquisition. These actions include organizational realignments including elimination of certain roles. Aerospace will continue to explore additional productivity opportunities, including working closely with vendors and customers as it relates to the timing of deliveries and pricing initiatives. Also, management seeks additional opportunities to leverage cost and facility synergies from the integration of our legacy Aerospace business with MB Aerospace. Management also remains focused on growth through strategic investments, acquisitions and new product and process introductions. Driving productivity continues as a key initiative. Operating profit may be impacted by changes in sales volume, mix and pricing, particularly as they relate to the higher profit Aftermarket RSP spare parts business, and investments made in each of its businesses. Operating profits may also be impacted by potential changes in tariffs, trade agreements and trade policies that may affect the cost and/or availability of goods and labor constraints. Costs associated with new product and process introductions, the physical transfer of work to other global regions, additional productivity initiatives and restructuring activities to drive improved operating profit in the longer term, while potentially negatively impacting operating profit in the short-term.

Industrial

(\$ in millions)	2023	2022	\$ Change	% Change	2021
Sales	\$ 842.8	\$ 832.7	\$ 10.1	1.2 %	\$ 896.5
Operating profit	36.0	(19.1)	55.1	NM	97.7
Operating margin	4.3 %	(2.3)%			10.9 %

NM- Not meaningful

Sales at Industrial were \$842.8 million in 2023, an increase of \$10.1 million, or 1.2%, from 2022. Organic sales were essentially flat as compared with the prior period, with year-over-year volume decreases, primarily within the Motion Control Solutions and Molding Solutions businesses, being offset by favorable pricing initiatives. Lower volumes were driven by softness within the tool and die market, partially offset by favorability within the general industrial and packaging end markets. Softness within China also impacted volumes within the second half of 2023. The impact of foreign currency translation increased sales by approximately \$10.1 million as the U.S. dollar weakened against foreign currencies.

Operating profit in 2023 at Industrial of \$36.0 million, as compared with an operating loss of \$19.1 million in 2022, driven by the absence of the \$68.2 million goodwill impairment charge and favorable pricing initiatives and procurement actions taken by management, partially offset by \$38.3 million of pre-tax charges related to restructuring and transformation actions, \$2.7 million and \$1.2 million of due diligence and transaction costs, respectively, allocated to the segment, and the profit impact of lower sales volumes. The due diligence and transactions costs were related to our entry into a definitive agreement to sell our Associated Spring and Hänggi businesses in January 2024 (see Note 23 to the Consolidated Financial Statements). Pre-tax charges related to restructuring and workforce reduction actions during the 2022 period were \$20.9 million. Pricing actions taken by the Company in response to inflationary pressures and increased global sourcing costs within Industrial provided a recovery of approximately \$20 million during 2023. Operating margin increased from (2.3)% in the 2022 period to 4.3% in the 2023 period, primarily a result of the items described above. The goodwill impairment charge of \$68.2 million decreased Industrial operating margin by 8.2% in 2022. Excluding the goodwill impairment charge, operating profit during 2022 was \$49.1 million. The incremental charges related to restructuring and transformation actions in 2023, as noted above, also impacted 2023 operating margins.

Outlook:

At Industrial, management remains focused on generating organic sales growth through additional sales and marketing resources and expanded go-to-market strategies to leverage the Company's full product portfolio across customers and global industrial end-markets. Our business remains impacted by continuing headwinds including absenteeism, supply chain constraints and China weakness. Order rates declined on a year-over-year basis driven by weakness in China, while North American and European markets saw modest growth. From a macro environment standpoint, the manufacturing Purchasing Managers' Index ("PMI") ended 2023 below 50 in the United States and Europe, while China was slightly above 50. Management closely monitors the impact of pricing changes and lead times on raw materials and freight, given the continued ongoing pressure of supply chain constraints. As the Company plans to divest its Associated Spring and Hanggi businesses that serve the automotive component manufacturing end market, the outlook for global automotive production will not be as meaningful a metric moving forward. Within our Molding Solutions business, orders within personal care and packaging end markets improved on a year-over-year basis, while transportation and medical orders softened. Sales volumes at certain of our businesses is dependent upon the need for equipment used in plastic injection molding markets, which may be significantly influenced by the demand for plastic products, the capital investment needs of companies in the plastic injection molding and plastics processing industries, changes in technological advances and changes in laws or regulations such as those related to single-use plastics, product and packaging composition and recycling. Automation orders softened on a year over-year basis. To the extent that the U.S. dollar fluctuates relative to other foreign currencies, our sales may be impacted relative to the prior year periods. The relative impact on operating profit is not expected to be as significant as the impact on sales as most of our businesses have expenses primarily denominated in local currencies, where their revenues reside, however operating margins may be impacted. Management is focused on sales growth through customer engagement, innovation and expanding geographic reach. Strategic investments in new technologies, manufacturing processes and product development are expected to provide benefits over the long term, and management continues to evaluate such opportunities.

The Company is focused on the proactive management of costs to increase competitiveness and productivity, and to mitigate the ongoing impacts of the current macroeconomic environments, including the continuing risks of supply chain

constraints and broad-based inflation on operating profit. The Company continues to manage its cost structure to align with the intake of orders and sales given remaining uncertainty within certain end-markets. In July 2022, management commenced a systematic multi-phased restructuring initiative (the "Actions") to significantly reduce costs and integrate the Company's operations, decreasing complexity and focusing on improved performance across Industrial. More specifically, the Company has announced restructuring programs (see Note 9 of the Consolidated Financial Statements) to further reduce costs primarily within the Industrial segment, in response to the macroeconomic disruptions. These actions include organizational realignment including elimination of certain roles across several locations.

During 2023, we formed the Barnes Transformation Office to enable a more agile, responsive organization using standard tools, processes and systems. We are currently executing numerous transformation initiatives that support the acceleration of growth and profitability. We are advancing our manufacturing facility optimization through footprint rationalization with plant closures in Molding Solutions, Motion Control Solutions and several smaller underperforming technology and service centers in the Automation business. Management will continue to explore opportunities for additional cost savings, while working closely with vendors and customers as it relates to the timing of deliveries and pricing initiatives. Operating profit may continue to be impacted by changes in sales volume, mix and pricing, inflation, labor costs, utility cost, and the levels of investments in growth and innovation that are made within each of the Industrial businesses. Operating profit may also be impacted by enactment of or changes in tariffs, trade agreements and trade policies that may affect the cost, lead times and/or availability of goods, including but not limited to, steel and aluminum. Costs associated with new product and process introductions, restructuring and other cost initiatives, and strategic investments may negatively impact operating profit.

LIQUIDITY AND CAPITAL RESOURCES

Management assesses the Company's liquidity in terms of its overall ability to generate cash to fund its operating and investing activities. Of particular importance in the management of liquidity are cash flows generated from operating activities, capital expenditure levels, dividends, capital stock transactions, effective utilization of surplus cash positions overseas and adequate lines of credit. The Company currently maintains sufficient liquidity and will continue to evaluate ways to enhance its liquidity position as it navigates through the macroeconomic trends discussed above.

The Company believes that its ability to generate cash from operations in excess of its internal operating needs is one of its financial strengths. Management continues to focus on cash flow and working capital management, and anticipates that operating activities in 2024 will generate sufficient cash to fund operations. See additional discussion regarding currently available debt facilities below. The Company continues to invest within its businesses, with its estimate of 2024 capital spending to approximate \$70 million.

On June 5, 2023, the Company entered into a Stock Purchase Agreement with MB Aerospace Group Holdings Limited, a Cayman Islands limited company (the "Agreement"). See Note 2 of the Consolidated Financial Statements. In connection with entry into the Agreement, on June 5, 2023, the Company entered into the Second Amendment (the "Second Amendment") to Note Purchase Agreement (as defined below) and Amendment No. 2 ("Amendment No. 2") to the restated senior unsecured revolving credit agreement ("Unsecured Credit Agreement") to facilitate the Transaction, as well as a commitment letter with Bank of America, N.A. and BofA Securities, Inc. (collectively, the "Commitment Parties"), pursuant to which the Commitment Parties agreed to provide, subject to the satisfaction of customary closing conditions contained therein, a \$1,000.0 million backstop senior secured revolving credit facility and a \$700.0 million senior secured 364-day bridge loan facility ("Bridge Loan Facility"). The Bridge Loan Facility was only intended to be drawn to the extent that the Company did not obtain alternative financing prior to the closing of the Transaction. The Company expensed fees of \$9.5 million in conjunction with the Bridge Loan Facility and \$1,000.0 million backstop senior secured revolving credit facility into interest expense on the Consolidated Statements of Income in the year ended December 31, 2023. On August 31, 2023 (the "Acquisition Date"), pursuant to the terms of the Agreement, the Company completed the Transaction for an aggregate purchase price of \$728.4 million, subject to customary and specified closing adjustments, as set forth in the Agreement. Concurrently, the Company entered into a new Credit Agreement (the "Credit Agreement") among the Company and certain of its subsidiaries, the issuing banks, lenders and other parties party thereto, and Bank of America, N.A., as administrative agent, as collateral agent and as swingline lender, which provides for senior secured financing of \$1,650.0 million, consisting of a term loan facility (the "Term Loan Facility") in an aggregate principal amount of \$650.0 million, with an original issue discount of \$4.9 million, and a revolving credit facility (the "Revolving Credit Facility" and, together with the Term Loan Facility, the "Senior Facilities") in an aggregate principal amount of up to \$1,000.0 million, including a letter of credit sub-facility of up to \$50.0 million. Proceeds of the loans borrowed under the Senior Facilities on the Acquisition Date, net of a 0.75% original issue discount on the Term Loan Facility, were used to fund, in part, the transactions contemplated by the Agreement, including the consummation of the Transaction, the

repayment in full of the Notes, and to pay related fees and expenses. As of the Acquisition Date, the Revolving Credit Facility had outstanding borrowings in an aggregate principal amount of approximately \$698.0 million. Proceeds of any loans under the Revolving Credit Facility borrowed after the Acquisition Date will be used for general corporate purposes. The Company paid fees and expenses of \$3.1 million in conjunction with executing the Revolving Credit Facility. Such fees have been deferred within Other Assets on the Consolidated Balance Sheets and will be amortized into interest expense on the Consolidated Statements of Income through the maturity of the Credit Agreement with the previously recorded debt issuance cost. The Company incurred \$8.3 million of debt issuance costs in conjunction with executing the Term Loan Facility. Such fees have been recorded as a direct deduction from the carrying amount of the Term Loan Facility and will be amortized into interest expense on the Consolidated Statements of Income through the maturity of the Term Loan Facility. Cash used to pay these fees was recorded through financing activities on the Consolidated Statements of Cash Flows. On August 31, 2023, in connection with the Credit Agreement and the closing of the Transaction, the Bridge Loan Facility was terminated.

The Senior Facilities are guaranteed by each of the Company's wholly owned domestic subsidiaries and are secured by substantially all assets of the Company and of each subsidiary guarantor, in each case subject to certain exceptions.

Borrowings under the Senior Facilities bear interest at a rate per annum equal to, at the Company's option, either Term SOFR (subject to a 0.00% floor) or an alternate base rate ("ABR"), in each case plus an applicable margin of (i) in the case of borrowings under the Term Loan Facility, 3.00% for Term SOFR loans and 2.00% for ABR loans and (ii) in the case of borrowings under the Revolving Credit Facility, initially, 2.375% for Term SOFR loans and 1.375% for ABR loans. The applicable margin for borrowings under the Revolving Credit Facility varies depending on the Company's total net leverage ratio. At December 31, 2023, the applicable margin for borrowings under the Revolving Credit Facility was 2.125%. The Company is also required to pay a commitment fee initially equal to 0.35% per annum to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder. The commitment fee under the Revolving Credit Facility varies depending on the Company's total net leverage ratio. At December 31, 2023, the commitment fee under the Revolving Credit Facility was 0.30%.

The Term Loan Facility matures on the seven-year anniversary of the Acquisition Date and amortizes in equal quarterly installments (\$6.5 million annually), starting with the first full fiscal quarter after the Acquisition Date, of 0.25% of the initial principal amount. The Revolving Credit Facility matures on the five-year anniversary of the Acquisition Date. In addition, the Company is required to prepay outstanding loans under the Term Loan Facility, subject to certain exceptions, with up to 50% of the Company's annual excess cash flow (as defined under the Credit Agreement) in excess of the greater of \$50.0 million and 15.0% of Adjusted Consolidated EBITDA (as defined in the Credit Agreement) during the last twelve months ("LTM") as of the applicable time, and with up to 100% of the net cash proceeds of certain recovery events and non-ordinary course asset sales (which percentages vary depending on the Company's first lien secured net leverage ratio).

The Company may generally prepay outstanding loans under the Senior Facilities at any time, without prepayment premium or penalty, subject to customary "breakage" costs with respect to Secured Overnight Financing Rate ("SOFR") loans. Prepayments of the Term Loan Facility in connection with certain "repricing events" resulting in a lower yield occurring at any time during the first six months after the Acquisition Date must be accompanied by a 1.00% prepayment premium.

The Revolving Credit Facility requires that the Company maintain a maximum Total Net Leverage Ratio, as defined in the Credit Agreement, initially of 5.50 to 1.00 as of the last day of each fiscal quarter for which financials have been (or were required to be) delivered, commencing with the first full fiscal quarter after the Acquisition Date, stepping down to 4.00 to 1.00 over time. The actual ratio, as defined, was 3.64 as of December 31, 2023. For material acquisitions in certain circumstances, such ratio may be increased by up to 0.50 to 1.00. The Revolving Credit Facility also requires that the Company not permit the Interest Coverage Ratio as of the last day of any test period to be less than 3.00 to 1.00. The actual ratio, as defined, was 3.47 as of December 31, 2023. At December 31, 2023, the Company was in compliance with all applicable covenants.

The Senior Facilities contain certain affirmative and negative covenants that limit the ability of the Company, among other things and subject to certain significant exceptions, to incur debt or liens, make investments, enter into certain mergers, consolidations, asset sales and acquisitions, pay dividends and make other restricted payments and enter into transactions with affiliates. The Senior Facilities also contain certain events of default, including relating to a change of control. If an event of default occurs, the lenders under the Senior Facilities will be entitled to take various actions, including the acceleration of amounts due under the Senior Facilities.

In January 2024, the Company announced that it has entered into a definitive agreement to sell its Associated Spring and Hänggi businesses to One Equity Partners. The transaction is valued at \$175.0 million, inclusive of a \$15.0 million promissory note due in 24 months. Expected net cash proceeds will be used to reduce debt incurred from the strategic acquisition of MB Aerospace. See Note 23 of the Consolidated Financial Statements for additional disclosure related to the planned divestiture of these businesses.

In 2022 and 2021, the Company acquired 0.2 million shares and 0.1 million shares of the Company's common stock, respectively, under the Repurchase Program at a cost of \$6.7 million and \$5.2 million, respectively. In 2023, no shares were acquired. Management will continue to evaluate additional repurchases based on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. See "Part II - Item 5 - Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities."

Operating cash flow may be supplemented with external borrowings to meet near-term business expansion needs and the Company's current financial commitments. The Company has assessed its credit facilities in conjunction with the Credit Agreement and currently expects that its bank syndicate, comprised of 10 banks, will continue to support its Revolving Credit Facility, which matures in August 2028. At December 31, 2023, the Company had \$357.0 million unused and available for borrowings under its \$1,000.0 million Revolving Credit Facility. The Company intends to use borrowings under its Revolving Credit Facility to support the Company's ongoing growth initiatives. While the Company continues to evaluate potential acquisition targets, it is now more narrowly assessing acquisitions, primarily with Aerospace, as evidenced by the consummation of the Transaction on August 31, 2023. Management remains focused on driving core business execution and financial performance via the planned integration and consolidation actions described above. The Company believes its credit facilities and access to capital markets, coupled with cash generated from operations, are adequate for its anticipated future requirements. See additional discussion above related to the Transaction and the Credit Agreement. The Company maintains communication with its bank syndicate as it continues to monitor its cash requirements.

The Company had no borrowings under short-term bank credit lines at December 31, 2023.

In October 2014, the Company entered into a Note Purchase Agreement ("Note Purchase Agreement"), among the Company and New York Life Insurance Company, New York Life Insurance and Annuity Corporation and New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Account, as purchasers, for the issuance of \$100.0 million aggregate principal amount of 3.97% senior notes due October 17, 2024 (the "Notes"). The Notes were senior unsecured obligations of the Company and paid interest semi-annually on April 17 and October 17 of each year at an annual rate of 3.97%. Subject to certain conditions, the Company could, at its option, prepay all or any part of the Notes in an amount equal to 100% of the principal amount so prepaid, plus any accrued and unpaid interest to the date of prepayment, plus the Make-Whole Amount, as defined in the Note Purchase Agreement, with respect to such principal amount being prepaid. The Notes, together with accrued and unpaid interest thereon, were repaid on August 31, 2023 in connection with the Transaction. There was no Make-Whole amount.

The Company entered into an interest rate swap agreement (the "2017 Swap") with one bank, which converted the interest on \$100.0 million of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.92% plus the borrowing spread. The 2017 Swap expired on January 31, 2022. On March 24, 2021, the Company entered into a new interest rate swap agreement (the "2021 Swap") with this same bank that commenced on January 31, 2022 and that converted the interest on \$100.0 million of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.17% plus the borrowing spread. Effective April 30, 2022, the Company amended the 2021 Swap (the "Amended 2021 Swap") such that the one-month SOFR-based borrowing rate replaced the one-month LIBOR-based borrowing rate. The Amended 2021 Swap, which will expire on January 30, 2026, converts the interest on \$100.0 million of the Company's one-month SOFR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.075% plus the borrowing spread. The execution of the Amended 2021 Swap did not have a material impact on our business, financial condition, results of operations or cash flow.

On July 19, 2023, the Company entered into an interest rate swap agreement (the "Euribor Swap") with one bank that commenced on July 31, 2023, which converts the interest on €150.0 million of the Company's Euribor-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 3.257% plus the borrowing spread. Under the Euribor Swap, €50.0 million will expire on July 31, 2026, with the remaining balance of €100.0 million expiring July 31, 2028. On September 12, 2023, the Company entered into six additional interest rate swap agreements (the "2023 Swaps") with six different banks that commenced on September 29, 2023, which convert the interest on \$600.0 million of the Company's one-month SOFR-based

borrowings from a variable rate plus the borrowing spread to a blended fixed rate of 4.321% plus the borrowing spread. Under the 2023 Swaps, \$50.0 million will expire on August 31, 2026, \$100.0 million will expire on August 31, 2027, \$200.0 million will expire on August 31, 2028, \$50.0 million will expire on August 31, 2029 and the remaining balance of \$200.0 million will expire on August 31, 2030. The execution of the interest rate swap agreements in 2023 did not have a material impact on our business, financial condition, results of operations or cash flow. These interest rate swap agreements (the "Swaps") are accounted for as cash flow hedges. At December 31, 2023, the Company's total borrowings were comprised of 67% fixed rate debt and 33% variable rate debt. At December 31, 2022, the Company's total borrowings were comprised of 34% fixed rate debt and 66% variable rate debt.

The funded status of the Company's pension plans is dependent upon many factors, including actual rates of return that impact the fair value of pension assets and changes in discount rates that impact projected benefit obligations. The pension plans funding status improved from an underfunded status of \$27.4 million at December 31, 2022 to a funded status of \$0.7 million at December 31, 2023 as both the fair value of the pension plan assets increased and the projected benefit obligations ("PBOs") decreased, following an update to certain actuarial assumptions. The Company recorded \$7.9 million of non-cash after-tax increases in stockholders equity (through other non-owner changes to equity) when recording the current year adjustments for changes in the funded status of its pension and postretirement benefit plans as required under accounting for defined benefit and other postretirement plans. This increase in stockholders equity resulted primarily from favorable variances between expected and actual returns on pension plan assets and the amortization of actuarial losses recorded earlier.

In 2023, the Company made \$0.1 million in discretionary contributions to its U.S. Qualified pension plans. The Company expects to contribute approximately \$7.1 million to its various defined benefit pension plans in 2024. No discretionary contributions to the U.S. Qualified pension plans are currently planned in 2024. See Note 12 of the Consolidated Financial Statements.

As noted above, the U.S. government enacted the Act on December 22, 2017. The Company completed its computation of the Transition Tax as required pursuant to SAB 118 in 2018, resulting in a final net Transition Tax expense of \$86.7 million. The Company elected to pay the Transition Tax over the allowed eight-year period. The installment payments for the Transition Tax are not expected to have a material impact on the liquidity or capital resources of the Company. The Company expects to make the payments through the use of available cash or borrowings under the Revolving Credit Facility.

At December 31, 2023, the Company held \$89.8 million in cash and cash equivalents, the majority of which was held by foreign subsidiaries. These amounts have no material regulatory or contractual restrictions and, on a long-term basis, are expected to primarily fund international investments. The Act changed the impact of U.S. taxation on foreign distributions. The Company is continuously evaluating its position regarding the potential repatriation of overseas cash. The evaluation of potential repatriation is dependent upon several variables, including foreign taxation of dividends and the impact of withholding tax. The Company did not repatriate any overseas cash to the U.S. during 2023.

The Company's efforts to comply with numerous federal, state and local laws and regulations applicable to its business and products often results in capital expenditures. The Company makes capital expenditures to design and upgrade its aerospace and industrial products to comply with or exceed standards applicable to the industries we serve. The Company's ongoing HSE compliance program also results in capital expenditures. Regulatory and HSE considerations are a part of significant capital expenditure decisions; however, expenditures during 2023, related solely to regulatory compliance were not material.

Any future acquisitions are expected to be financed through cash, borrowings and equity, or a combination thereof. We may from time to time seek to retire or repurchase our outstanding debt through cash purchases and/or exchanges for equity securities, in open market purchases, under a Rule 10b5-1 trading plan, privately negotiated transactions or otherwise. Such repurchases or exchanges, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors.

Cash Flow

(\$ in millions)	2023	2022	\$ Change	2021
Operating activities	\$ 112.4	\$ 75.6	\$ 36.9	\$ 167.8
Investing activities	(767.5)	(36.0)	(731.5)	(29.8)
Financing activities	666.6	(64.8)	731.4	(114.7)
Exchange rate effect	(0.5)	(5.5)	5.0	(2.9)
Increase (decrease) in cash, cash equivalents and restricted cash	\$ 10.9	\$ (30.8)	\$ 41.7	\$ 20.4

Operating activities provided \$112.4 million in 2023 compared to \$75.6 million in 2022. The 2023 period included a use of cash for working capital of \$10.9 million compared to a use of cash for working capital of \$72.1 million in the 2022 period. Inventory levels increased and used cash of \$48.6 million during the 2022 period, largely as a result of supply chain constraints and strategic builds to support customer demands, combined with the impact of inflation. Inventory levels stabilized throughout 2023, however, driving a slight source of cash within the current year period. Growth in receivables used cash of \$39.5 million in 2022, compared with a use of \$6.1 million in 2023. Operating cash flows in the 2022 period were negatively impacted by outflows for accrued liabilities, primarily related to incentive compensation, whereas accrued liabilities provided cash of \$22.7 million in the current period, partially driven by an increase in advance payments on contracts.

Investing activities used \$767.5 million in 2023 and \$36.0 million in 2022. In 2023, investing activities included outflows of \$718.8 million used to fund the MB Aerospace acquisition and capital expenditures of \$55.7 million, compared to \$35.1 million of capital expenditures in 2022. The Company expects capital spending in 2024 to approximate \$70 million. Capital expenditures relate to both maintenance and support of growth initiatives, which include the purchase of equipment to support new products and services, and are expected to be funded primarily through cash flows from operations.

Cash used by financing activities in 2023 included a net increase in borrowings of \$705.3 million compared to a net decrease of \$11.5 million in 2022. In the 2023 period, net borrowings were primarily used to fund the MB Aerospace acquisition. In addition, the Company paid \$11.3 million of fees in connection with entering into the new Credit Agreement in connection with the MB Aerospace acquisition. See Note 2 and Note 8 to the Consolidated Financial Statements. Proceeds from the issuance of common stock were \$0.4 million and \$0.5 million in 2023 and 2022, respectively. Total cash used to pay dividends was \$32.4 million in both the 2023 and 2022 periods. Other financing cash flows during 2023 included \$8.3 million of net cash proceeds compared to \$12.3 million of net cash payments during 2022, resulting from the settlement of foreign currency hedges related to intercompany financing. Other financing cash flows in 2023 also included \$2.4 million of payments that related to the residual interest in a subsidiary.

Contractual Obligations and Commitments

At December 31, 2023, the Company had the following contractual obligations and commitments:

(\$ in millions)	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Long-term debt obligations ⁽¹⁾	\$ 1,303.4	\$ 10.9	\$ 17.2	\$ 657.8	\$ 617.5
Estimated interest payments under long-term obligations ⁽²⁾	557.9	98.6	195.1	178.0	86.2
Operating lease obligations ⁽³⁾	61.0	13.0	15.7	9.2	23.1
Purchase obligations ⁽⁴⁾	459.3	366.2	90.7	2.4	—
Expected pension contributions ⁽⁵⁾	7.1	7.1	—	—	—
Expected benefit payments – other postretirement benefit plans ⁽⁶⁾	17.8	2.3	4.2	3.7	7.6
Long-term U.S. Tax Reform obligations ⁽⁷⁾	21.7	—	21.7	—	—
Total	\$ 2,428.3	\$ 498.1	\$ 344.5	\$ 851.1	\$ 734.5

(1) Long-term debt obligations represent the required principal payments under such agreements.

(2) Interest payments under long-term debt obligations have been estimated based on the borrowings outstanding and market interest rates as of December 31, 2023.

- (3) The Company's operating lease payments included herein reflect the future minimum undiscounted fixed lease payments, which represent the basis for calculating the Company's operating lease liabilities as of December 31, 2023. Refer to Note 19 of the Consolidated Financial Statements.
- (4) The amounts do not include purchase obligations reflected as current liabilities on the Consolidated Balance Sheets. The purchase obligation amount includes all outstanding purchase orders as of the balance sheet date as well as the minimum contractual obligation or termination penalty under other contracts.
- (5) The amount included in "Less Than 1 Year" reflects anticipated contributions to the Company's various pension plans. Anticipated contributions beyond one year are not determinable.
- (6) Amounts reflect anticipated benefit payments under the Company's other postretirement benefit plans based on current actuarial assumptions. Expected benefit payments, as presented above, do not extend beyond 2033. See Note 12 of the Consolidated Financial Statements.
- (7) Amounts reflect anticipated long-term payments related to the Tax Cuts and Jobs Act that was enacted on December 22, 2017. Payments are allowed over an eight-year period. See Note 14 of the Consolidated Financial Statements. The amount payable in 2024 is included within accrued liabilities on the Consolidated Balance Sheets.

The above table does not reflect unrecognized tax benefits as the timing of the potential payments of these amounts cannot be determined. See Note 14 of the Consolidated Financial Statements.

OTHER MATTERS

Inflation

Inflation generally affects the Company through its costs of labor, equipment, raw materials, freight and utilities. The Company strives to offset these items by price increases, commodity price escalator provisions, operating improvements, and other cost-saving initiatives. In certain end markets, implementing price increases may be difficult and there is no assurance that the Company will be successful. From time to time, the Company may encounter difficulties in obtaining certain raw materials or components necessary for production due to supply chain constraints and logistical challenges, which may also negatively impact the pricing of materials and components sourced or used by the Company. Through 2023, for example, raw material availability and inflationary pressures have impacted certain of our businesses. See "Part I, Item 1A. Risk Factors.

Critical Accounting Estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant accounting policies are disclosed in Note 1 of the Consolidated Financial Statements. The most significant areas involving management judgments and estimates are described below. Actual results could differ from such estimates.

Inventory Valuation: Inventories are valued at the lower of cost, determined on a first-in, first-out basis, or net realizable value. The primary components of cost included in inventories are raw material, labor and overhead. Provisions are made to reduce excess or obsolete inventories to their estimated net realizable value. The process for evaluating the value of excess and obsolete inventory often requires the Company to make subjective judgments and estimates concerning future sales levels, quantities and prices at which such inventory will be sold in the normal course of business and estimated costs. Estimates of excess and obsolete inventory may differ from actual results due to changes in market value, channels of distribution, customer preferences and overall economic and market conditions. Accelerating the disposal process or changes in estimates based on future sales potential or estimated costs may necessitate future adjustments to these provisions.

Revenue recognition: Revenue is recognized by the Company when control of the product or solution is transferred to the customer. Control is generally transferred when products are shipped or delivered to customers, title is transferred, the significant risks and rewards of ownership have transferred, the Company has rights to payment and rewards of ownership pass to the customer. Customer acceptance may also be a factor in determining whether control of the product has transferred. Although revenue is generally transferred at a point in time, a certain portion of businesses with customized products or contracts in which the Company performs work on customer-owned assets requires the use of an over time recognition model as certain contracts meet one or more of the established criteria pursuant to the accounting standards governing revenue recognition. Also, service revenue is recognized as control transfers, which is concurrent with the services being performed. The estimation of both total revenue and cost at completion includes a number of variables and requires significant judgement. A portion of our Aerospace OEM business as well as a portion of our Molding Solutions business has an estimate at completion process in which management reviews the progress and execution of our performance obligations for significant contracts with revenue recognized under an over time model. Factors considered in these estimates include, but are not limited to, performance under the contract, progress towards completion, identified risks and opportunities, sourcing determinations and related changes in estimates of costs to be incurred. The potential exists that there will be a material change in estimates or assumptions used to

calculate revenue recognized under an over time model and as a result changes to these estimates could have a material adverse effect on our results of operations. Adjustments to net sales, cost of sales and the related impact to operating income are recognized as necessary. Revenue recognized from performance obligations satisfied in previous periods was not material in 2023, 2022 and 2021. See Note 3 of the Consolidated Financial Statements.

Business Acquisitions, Intangible Assets and Goodwill: Assets and liabilities acquired in a business combination are recorded under the acquisition method of accounting at their estimated fair values at the dates of acquisition. At December 31, 2023, the Company had \$1,183.6 million and \$509.4 million of goodwill and identifiable intangible assets related to acquisitions, respectively. Goodwill represents the cost of acquisitions in excess of fair values assigned to the underlying identifiable net assets of acquired businesses. The assignment of fair market value requires significant judgments regarding the estimates and assumptions used to value the acquired assets and liabilities assumed. In determining the fair values of the assets acquired and liabilities assumed in conjunction with the acquisition of MB Aerospace, the Company utilized the cost, income and market approaches from the perspective of a market participant. Identifiable intangible assets acquired with Aerospace MB include customer relationships and developed technology. The fair value of the customer relationship intangible asset was determined as of the acquisition date utilizing the multi-period excess earnings method. This method is based on estimates and judgments relating to expectations for the future after-tax cash flows arising from customer relationships that existed on the acquisition date over their estimated lives, including those related to forecasted revenue growth rates, gross margins and customer attrition rates, all of which are discounted to present value using appropriate discount rates. The fair value of the developed technology intangible asset was determined utilizing the relief from royalty method which is a form of the income approach. Under this method, an after-tax royalty rate based on market royalty rates is applied to forecasted revenue growth rates associated with the developed technology and discounted to present value using appropriate discount rates. See Note 2 and Note 6 of the Consolidated Financial Statements.

Goodwill and indefinite-lived intangible assets are subject to impairment testing annually or earlier if an event or change in circumstances indicates that the fair value of a reporting unit has been reduced below its carrying value. Management completes their annual impairment assessments during the second quarter of each year as of April 1. The Company utilizes the option to first assess qualitative factors to determine whether it is necessary to perform the Step 1 quantitative goodwill impairment test in accordance with the applicable accounting standards. Under the qualitative assessment, management considers relevant events and circumstances including but not limited to macroeconomic conditions, industry and market considerations, overall reporting unit performance and events directly affecting a reporting unit. If the Company determines that the Step 1 quantitative impairment test is required, management estimates the fair value of the reporting unit using the income approach. Inherent in management's development of cash flow projections are assumptions and estimates, including those related to forecasted revenue growth rates, forecasted operating margins and the weighted average cost of capital. The Company compares the fair value of the reporting unit with the carrying value of the reporting unit. If the fair values were to fall below the carrying values, the Company would recognize a non-cash impairment charge to income from operations for the amount by which the carrying amount of any reporting unit exceeds the reporting unit's fair value, assuming the loss recognized does not exceed the total amount of goodwill for the reporting unit. Based on our annual assessment in the second quarter of 2023, the estimated fair value of the Automation reporting unit, which represents the 2018 acquisition of Gimatic, exceeded its carrying value, while the estimated fair value of each of the remaining reporting units significantly exceeded their carrying values. During the prior year 2022 period, management recorded a non-cash goodwill impairment charge related to the Automation reporting unit as the estimated fair value of the reporting unit declined below its carrying value. There was no goodwill impairment at any reporting units in the 2023 period. Estimating the fair value of individual reporting units also requires that management make continued assumptions and estimates regarding future plans and strategies, in addition to the consideration of economic, geopolitical and regulatory conditions. In the event there are future adverse changes in our estimated future cash flows and/or changes in key assumptions, including but not limited to discount rates, revenue growth or margins, and/or terminal growth rates, we may be required to record additional non-cash impairment charges to Automation goodwill. Many of the factors used in assessing fair value are outside the control of management, and these assumptions and estimates can change in future periods as a result of both Company-specific and overall economic conditions. Management's quantitative assessment includes a review of the potential impacts of current and projected market conditions from a market participant's perspective on reporting units' projected cash flows, growth rates and cost of capital to assess the likelihood of whether the fair value would be less than the carrying value. The Company also completed its annual impairment testing of its trade names, indefinite-lived intangible assets, in the second quarter of 2023 and determined that there were no impairments. At December 31, 2023, the goodwill related to the Automation reporting unit was 179.7 million Euros (\$198.8 million).

Aerospace Aftermarket Programs: The Company participates in aftermarket RSPs under which the Company receives an exclusive right to manufacture and supply designated aftermarket parts over the life of the related aircraft engine program to

our customer, GE. As consideration, the Company has paid participation fees, which are recorded as intangible assets. The carrying value of these intangible assets was \$123.4 million at December 31, 2023. The Company records amortization of the related asset as sales dollars are being earned based on a proportional sales dollar method. Specifically, this method amortizes each asset as a reduction to revenue based on the proportion of sales under a program in a given period to the estimated aggregate sales dollars over the life of that program which reflects the pattern in which economic benefits are realized.

The Company also participates in CRPs with GE which provide for, among other items, the right to sell certain aftermarket component repair services for CFM56, CF6, CF34 and LM engines directly to other customers over the life of the engine program as one of a few GE licensed suppliers. In addition, the CRPs extended certain existing contracts under which the Company provides these services directly to GE. Our total investments in CRPs as of December 31, 2023 equaled \$111.8 million, all of which have been paid. At December 31, 2023, the carrying value of the CRPs was \$62.3 million. The Company recorded the CRP payments as an intangible asset which is recognized as a reduction of sales over the remaining life of these engine programs based on the estimated sales over the life of such programs. This method reflects the pattern in which the economic benefits of the CRPs are realized.

The recoverability of each asset is subject to significant estimates about future revenues related to the programs' aftermarket parts and services. The Company evaluates these intangible assets for recoverability and updates amortization rates on an agreement by agreement basis for the RSPs and on an individual asset basis for the CRPs. The assets are reviewed for recoverability periodically including whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Annually, the Company evaluates the remaining life of these assets to determine whether events and circumstances warrant a revision to the remaining periods of amortization. Management updates revenue projections, which include a comparison of actual experience against projected revenue and industry projections. The potential exists that actual revenues will not meet expectations due to a change in market conditions, including, for example, the replacement of older engines with new, more fuel-efficient engines or the Company's ability to capture additional production share within the aftermarket business. A shortfall in future revenues may indicate a triggering event requiring a write down or further evaluation of the recoverability of the assets or require the Company to accelerate amortization expense prospectively dependent on the level of the shortfall. The Company has not identified any impairment of these assets, although changes in projected RSP and CRP revenue has impacted amortization rates that will be applied prospectively. See Note 6 of the Consolidated Financial Statements.

Pension and Other Postretirement Benefits: Accounting policies and significant assumptions related to pension and other postretirement benefits are disclosed in Note 12 of the Consolidated Financial Statements. As discussed further below, the significant assumptions that impact pension and other postretirement benefits include discount rates, mortality rates and expected long-term rates of return on invested pension assets.

The Company selected the expected long-term rate of return of its U.S. defined benefit plans based on consideration of historical and projected rates of return on the weighted target asset mix of our pension investments. The target mix reflects a 65% equity investment target and a 35% target for fixed income and cash investments (in aggregate). The equity investment of 65% is more heavily weighted on global equity investment targets, rather than U.S. targets. The historical rates of return for the Company's defined benefit plans were calculated based upon compounded average rates of return of published indices. Management selected a long-term expected rate of return on its U.S. pension assets of 7.75%. The long-term rates of return for non-U.S. plans were selected based on actual historical rates of return of published indices that reflect the plans' target asset allocations.

The discount rate used for the Company's U.S. pension plans reflects the rate at which the pension benefits could be effectively settled. At December 31, 2023, the Company selected a discount rate of 5.45% based on a bond matching model for its U.S. pension plans. Market interest rates have slightly decreased in 2023 as compared with 2022 and, as a result, the discount rate used to measure pension liabilities decreased from 5.50% at December 31, 2022. The discount rates for non-U.S. plans were selected based on highly rated long-term bond indices and yield curves that match the duration of the plan's benefit obligations.

A one-quarter percentage point change in the assumed long-term rate of return on the Company's U.S. pension plans as of December 31, 2023 would impact the Company's 2024 pre-tax income by approximately \$0.3 million. A one-quarter percentage point decrease in the discount rate on the Company's U.S. pension plans as of December 31, 2023 would also decrease the Company's 2024 pre-tax income by approximately \$8.0 million. The Company reviews these and other assumptions at least annually.

The Company recorded \$7.9 million of non-cash after-tax increases in stockholders equity (through other non-owner changes to equity) when recording the current year adjustments for changes in the funded status of its pension and postretirement benefit plans as required under accounting for defined benefit and other postretirement plans. This increase in stockholders equity resulted primarily from variances between expected and actual returns on pension plan assets and the amortization of actuarial losses. During 2023, the fair value of the Company's pension plan assets increased by \$8.6 million and the projected benefit obligation decreased by \$19.4 million. The decrease in the projected benefit obligation included payments of benefits to plan participants of \$33.6 million partially offset by a \$8.6 million (pre-tax) increase due to actuarial losses resulting primarily from a change in the discount rates used to measure pension liabilities, annual service and interest costs of \$2.6 million and \$19.4 million, respectively also impacted the decrease in the projected benefit obligation. Changes to other actuarial assumptions in 2023 did not have a material impact on our stockholders equity or projected benefit obligation. Actual pre-tax gains on total pension plan assets were \$38.3 million compared with an expected pre-tax return on pension assets of \$30.1 million. Pension income for 2024 is expected to increase from \$6.1 million in 2023, excluding curtailment gains of \$0.7 million and settlement gains of \$0.7 million, to pension income of \$8.0 million, also excluding the impacts of any potential curtailments or settlements.

Income Taxes: As of December 31, 2023, the Company had recognized \$10.3 million of deferred tax assets, net of valuation reserves. The realization of these benefits is dependent, in part, on the amount and timing of future taxable income in jurisdictions where the deferred tax assets reside. For those jurisdictions where the expiration dates of tax loss carryforwards or the proposed operating results indicate that realization is unlikely, a valuation allowance is provided. Management currently believes that sufficient taxable income should be earned in the future to realize the deferred tax assets, net of valuation allowances recorded.

The valuation of deferred tax assets requires significant judgment. Management's assessment that the deferred tax assets will be realized represents its estimate of future results; however, there can be no assurance that such expectations will be met. Changes in management's assessment of achieving sufficient future taxable income could materially increase the Company's tax expense and could have a material adverse impact on the Company's financial condition and the results of operations.

Additionally, the Company is exposed to certain tax contingencies in the ordinary course of business and records those tax liabilities in accordance with the guidance for accounting for uncertain tax positions. For tax positions where the Company believes it is more likely than not that a tax benefit will be sustained, the Company has recorded the largest amount of tax benefit with a greater than 50% likelihood of being realized. For those income tax positions where it is more likely than not that a tax benefit will not be sustained, no tax benefit is recognized in the financial statements. A change in judgement that results in subsequent recognition, derecognition or change in measurement of a tax position taken in a earlier period will be recognized in the period that the change occurred. We do not anticipate a significant change in our unrecognized tax benefits within the next twelve months. The Company or its subsidiaries file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. With a few exceptions, tax years remaining open to examination in significant foreign jurisdictions include tax years 2018 and forward and for the U.S. include tax years 2016 and forward. See Note 14 of the Consolidated Financial Statements. A one percentage point increase/decrease in our tax rate would have affected our 2023 earnings by \$0.3 million. Changes in judgement related to tax positions taken in previous periods was not material in 2023, 2022 and 2021.

As noted above, a significant portion of revenue is generated by foreign locations. Current guidance requires the recognition of a tax liability under the assumption that foreign earnings will be repatriated in the future, unless the Company can assert that the earnings are indefinitely reinvested. Management's annual assessment in determining whether the earnings are indefinitely reinvested is based on an analysis of U.S. cash requirements and working capital requirements of the foreign operations, including capital expenditures, combined with any limitations, such as dividend restrictions or local law limits, which would limit possible repatriation. All remaining earnings are considered indefinitely reinvested as defined per the indefinite reversal criterion within the accounting guidance for income taxes.

In October 2021, the OECD announced an Inclusive Framework on Base Erosion and Profit Shifting including Pillar Two Model Rules defining the global minimum tax, which calls for the taxation of large multinational corporations at a minimum rate of 15%. Subsequently multiple sets of administrative guidance have been issued. Many non-US tax jurisdictions have either recently enacted legislation to adopt certain components of the Pillar Two Model Rules beginning in 2024 with the adoption of additional components in later years or announced their plans to enact legislation in future years. We are continuing to evaluate the impacts of enacted legislation and pending legislation to enact Pillar Two Model Rules in the non-US tax jurisdictions in which we operate.

Stock-Based Compensation: The Company accounts for its stock-based employee compensation plans at fair value on the grant date and recognizes the related cost in its consolidated statement of income in accordance with accounting standards related to share-based payments. The fair values of stock options granted under the 2023 Barnes Group Stock and Incentive Award Plan ("2023 Plan") is estimated using the Black-Scholes option-pricing model based on certain assumptions. Compensation expense may be adjusted in future periods based on the achievement of the requisite service condition. The fair values of service and performance-based share awards granted under the 2023 Plan are determined based on the fair market value of the Company's stock price on the grant date. Compensation expense is based on fair value and is recorded each period based up on a probability assessment of achieving performance goals. The fair value of market-based performance share awards under the 2023 Plan is estimated on the grant date using the Monte Carlo valuation method. The fair value of the performance-vested stock options granted in July 2022 under the CEO's Stock Option Award was also estimated using the Monte Carlo valuation method on the grant date. Compensation expense for awards valued using the Monte Carlo valuation method is fixed at the date of grant and will not be adjusted in future periods. See Note 13 of the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk is the potential economic loss that may result from adverse changes in the fair value of financial instruments. The Company's financial results could be impacted by changes in interest rates and foreign currency exchange rates, and commodity price changes. The Company uses financial instruments to hedge its exposure to fluctuations in interest rates and foreign currency exchange rates. The Company does not use derivatives for speculative or trading purposes.

The Company's long-term debt portfolio consists of fixed-rate and variable-rate instruments and is managed to reduce the overall cost of borrowing while also minimizing the effect of changes in interest rates on near-term earnings. The Company's primary interest rate risk is derived from its outstanding variable-rate debt obligations. Financial instruments have been used by the Company to hedge its exposures to fluctuations in interest rates.

On April 28, 2017, the Company entered into an interest rate swap agreement (the "2017 Swap") with one bank which converted the interest on \$100.0 million of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.92% plus the borrowing spread. The 2017 Swap expired on January 31, 2022. On March 24, 2021, the Company entered into a new interest rate swap agreement (the "2021 Swap") with this same bank that commenced on January 31, 2022 and that converted the interest on the first \$100.0 million of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.17% plus the borrowing spread. Effective, April 30, 2022, the Company amended the 2021 Swap (the "Amended 2021 Swap"), such that the one-month SOFR-based borrowing rate replaced the one-month LIBOR-based borrowing rate. The Amended 2021 Swap, which will expire on January 30, 2026, converts the interest on \$100.0 million of the Company's one-month SOFR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.075% plus the borrowing spread. The execution of the Amended 2021 Swap did not have a material impact on our business, financial condition, results of operations or cash flow. On July 19, 2023, the Company entered into an interest rate swap agreement (the "Euribor Swap") with one bank that commenced on July 31, 2023, which converts the interest on €150.0 million of the Company's Euribor-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 3.257% plus the borrowing spread. Under the Euribor Swap, €50.0 million will expire on July 31, 2026, with the remaining balance of €100.0 million expiring on July 31, 2028. On September 12, 2023, the Company entered into six additional interest rate swap agreements (the "2023 Swaps") with six different banks that commenced on September 29, 2023, which convert the interest on \$600.0 million of the Company's one-month SOFR-based borrowings from a variable rate plus the borrowing spread to a blended fixed rate of 4.321% plus the borrowing spread. Under the 2023 Swaps, \$50.0 million will expire on August 31, 2026, \$100.0 million will expire on August 31, 2027, \$200.0 million will expire on August 31, 2028, \$50.0 million will expire on August 31, 2029 and the remaining balance of \$200.0 million will expire on August 31, 2030. The execution of the Euribor Swap and the 2023 Swaps did not have a material impact on our business, financial condition, results of operations or cash flow. The result of a hypothetical 100 basis point increase in the interest rate on the average bank borrowings of the Company's variable-rate debt during 2023 would have reduced annual pretax profit by \$4.3 million.

At December 31, 2023, the fair value of the Company's fixed-rate debt was \$11.7 million, compared with its carrying amount of \$12.0 million. The Company estimates that a 100 basis point decrease in market interest rates at December 31, 2023 would not have a material impact on the fair value of the Company's fixed rate debt.

The Company has manufacturing, sales and distribution facilities around the world and thus makes investments and conducts business transactions denominated in various currencies. The Company is exposed primarily to financial instruments denominated in currencies other than the functional currency at its international locations. A 10% adverse change in foreign currencies relative to the U.S. dollar at December 31, 2023 would have resulted in a \$2.6 million loss in the fair value of those financial instruments. At December 31, 2023, the Company held \$89.8 million of cash and cash equivalents, the majority of which is held by foreign subsidiaries.

Foreign currency commitments and transaction exposures are managed at the operating units as an integral part of their businesses in accordance with a corporate policy that addresses acceptable levels of foreign currency exposures.

Additionally, to reduce foreign currency exposure, management generally maintains the majority of foreign cash and short-term investments in functional currency and uses forward currency contracts for non-functional currency denominated monetary assets and liabilities and anticipated transactions in an effort to reduce the effect of the volatility of changes in foreign exchange rates on the income statement. Management assesses the strength of currencies in certain countries such as Brazil and Mexico, relative to the U.S. dollar, and may elect during periods of local currency weakness to invest excess cash in U.S. dollar-denominated instruments.

The Company's exposure to commodity price changes relates to certain manufacturing operations that utilize high-grade steel spring wire, stainless steel, titanium, Inconel, Hastelloys and other specialty metals. The Company attempts to manage its exposure to price increases through its procurement and sales practices. See "Part I - Item 1A - Risk Factors" for additional disclosure related to this market risk.

The results of the Company could be impacted by changes in tariffs, trade agreements or other trade restrictions imposed or agreed to by the U.S. or foreign governments.

Item 8. Financial Statements and Supplementary Data

BARNES GROUP INC. CONSOLIDATED STATEMENTS OF INCOME (Dollars in thousands, except per share data)

	Years Ended December 31,		
	2023	2022	2021
Net sales	\$ 1,450,871	\$ 1,261,868	\$ 1,258,846
Cost of sales	1,008,786	839,996	803,850
Selling and administrative expenses	353,093	296,559	304,978
Goodwill impairment charge	—	68,194	—
	1,361,879	1,204,749	1,108,828
Operating income	88,992	57,119	150,018
Interest expense	58,171	14,624	16,209
Other expense (income), net	(2,443)	4,310	5,992
Income before income taxes	33,264	38,185	127,817
Income taxes	17,268	24,706	27,944
Net income	\$ 15,996	\$ 13,479	\$ 99,873
Per common share:			
Basic	\$ 0.31	\$ 0.26	\$ 1.96
Diluted	\$ 0.31	\$ 0.26	\$ 1.96
Weighted average common shares outstanding:			
Basic	51,052,963	50,962,447	50,926,374
Diluted	51,205,888	51,084,167	51,079,063

See accompanying notes.

BARNES GROUP INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(Dollars in thousands)

	Years Ended December 31,		
	2023	2022	2021
Net income	\$ 15,996	\$ 13,479	\$ 99,873
Other comprehensive income (loss), net of tax			
Unrealized (loss) gain on hedging activities, net of tax ⁽¹⁾	(20,445)	5,781	917
Foreign currency translation adjustments, net of tax ⁽²⁾	37,952	(78,110)	(60,252)
Defined benefit pension and other postretirement benefits, net of tax ⁽³⁾	7,864	3,667	29,812
Total other comprehensive income (loss), net of tax	25,371	(68,662)	(29,523)
Total comprehensive income (loss)	\$ 41,367	\$ (55,183)	\$ 70,350

(1) Net of tax of \$(6,700), \$1,825 and \$334 for the years ended December 31, 2023, 2022 and 2021, respectively.

(2) Net of tax of \$0, \$0, and \$0 for the years ended December 31, 2023, 2022 and 2021, respectively.

(3) Net of tax of \$3,221, \$(489) and \$8,916 for the years ended December 31, 2023, 2022 and 2021, respectively.

See accompanying notes.

BARNES GROUP INC.
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands, except per share data)

	December 31,	
	2023	2022
Assets		
Current assets		
Cash and cash equivalents	\$ 89,827	\$ 76,858
Accounts receivable, less allowances (2023 – \$7,258; 2022 – \$5,222)	353,923	291,883
Inventories	365,221	283,402
Prepaid expenses and other current assets	97,749	80,161
Total current assets	906,720	732,304
Deferred income taxes	10,295	18,028
Property, plant and equipment, net	402,697	320,139
Goodwill	1,183,624	835,472
Other intangible assets, net	706,471	442,492
Other assets	98,207	65,295
Total assets	<u>\$ 3,308,014</u>	<u>\$ 2,413,730</u>
Liabilities and Stockholders' Equity		
Current liabilities		
Notes and overdrafts payable	\$ 16	\$ 8
Accounts payable	164,264	145,060
Accrued liabilities	221,462	158,568
Long-term debt – current	10,868	1,437
Total current liabilities	396,610	305,073
Long-term debt	1,279,962	569,639
Accrued retirement benefits	45,992	54,352
Deferred income taxes	120,608	62,562
Long-term tax liability	21,714	39,086
Other liabilities	80,865	36,691
Commitments and contingencies (Note 22)		
Stockholders' equity		
Common stock – par value \$0.01 per share		
Authorized: 150,000,000 shares		
Issued: at par value (2023 – 64,600,635 shares; 2022 – 64,481,493 shares)	646	645
Additional paid-in capital	537,948	529,791
Treasury stock, at cost (2023 – 13,914,076 shares; 2022 – 13,890,802 shares)	(532,415)	(531,507)
Retained earnings	1,551,213	1,567,898
Accumulated other non-owner changes to equity	(195,129)	(220,500)
Total stockholders' equity	1,362,263	1,346,327
Total liabilities and stockholders' equity	<u>\$ 3,308,014</u>	<u>\$ 2,413,730</u>

See accompanying notes.

BARNES GROUP INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	Years Ended December 31,		
	2023	2022	2021
Operating activities:			
Net income	\$ 15,996	\$ 13,479	\$ 99,873
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	115,818	92,150	91,085
Gain on disposition of property, plant and equipment	(1,197)	(821)	(1,027)
Stock compensation expense	10,201	12,804	11,470
Non-cash goodwill impairment charge	—	68,194	—
Changes in assets and liabilities, net of the effects of acquisitions:			
Accounts receivable	(6,073)	(39,484)	(18,793)
Inventories	622	(48,591)	(7,350)
Prepaid expenses and other current assets	1,321	(9,257)	(5,208)
Accounts payable	(5,493)	15,998	22,909
Accrued liabilities	22,673	(25,659)	(1,630)
Deferred income taxes	(16,058)	2,645	(19,354)
Long-term retirement benefits	(17,256)	(1,474)	3,423
Long-term tax liability	(13,029)	(6,948)	(6,949)
Other	4,890	2,523	(643)
Net cash provided by operating activities	112,415	75,559	167,806
Investing activities:			
Proceeds from disposition of property, plant and equipment	7,921	1,825	3,007
Capital expenditures	(55,739)	(35,082)	(34,117)
Business acquisitions, net of cash acquired	(718,782)	—	—
Other	(921)	(2,729)	1,304
Net cash used in investing activities	(767,521)	(35,986)	(29,806)
Financing activities:			
Net change in other borrowings	(257)	(1,333)	(173)
Payments on long-term debt	(314,167)	(108,415)	(115,507)
Proceeds from the issuance of long-term debt	1,019,708	98,285	48,300
Payments of debt issuance costs	(11,341)	—	—
Proceeds from the issuance of common stock	353	513	1,427
Common stock repurchases	—	(6,721)	(5,229)
Dividends paid	(32,412)	(32,376)	(32,402)
Withholding taxes paid on stock issuances	(908)	(1,144)	(1,421)
Other	5,586	(13,638)	(9,661)
Net cash used provided by financing activities	666,562	(64,829)	(114,666)
Effect of exchange rate changes on cash flows	(545)	(5,525)	(2,893)
Increase (decrease) in cash, cash equivalents and restricted cash	10,911	(30,781)	20,441
Cash, cash equivalents and restricted cash at beginning of year	81,128	111,909	91,468
Cash, cash equivalents and restricted cash at end of year	92,039	81,128	111,909
Less: Restricted cash, included in Prepaid expenses and other current assets	(2,212)	(2,135)	(4,524)
Less: Restricted cash, included in Other assets	—	(2,135)	(4,525)
Cash and cash equivalents at end of year	\$ 89,827	\$ 76,858	\$ 102,860

See accompanying notes.

BARNES GROUP INC.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(Dollars and shares in thousands)

	Common Stock (Number of Shares)	Common Stock (Amount)	Additional Paid-In Capital	Treasury Stock (Number of Shares)	Treasury Stock	Retained Earnings	Accumulated Other Non-Owner Changes to Equity	Total Stockholders' Equity
January 1, 2021	64,171	\$ 642	\$ 501,531	13,530	\$ (516,992)	\$ 1,519,811	\$ (122,315)	\$ 1,382,677
Comprehensive income (loss)	—	—	—	—	—	99,873	(29,523)	70,350
Dividends declared (\$0.64 per share)	—	—	—	—	—	(32,402)	—	(32,402)
Residual interest in subsidiary	—	—	2,177	—	—	—	—	2,177
Common stock repurchases	—	—	—	100	(5,229)	—	—	(5,229)
Employee stock plans	173	1	12,854	28	(1,421)	(241)	—	11,193
December 31, 2021	64,344	643	516,562	13,658	(523,642)	1,587,041	(151,838)	1,428,766
Comprehensive income (loss)	—	—	—	—	—	13,479	(68,662)	(55,183)
Dividends declared (\$0.64 per share)	—	—	—	—	—	(32,376)	—	(32,376)
Common stock repurchases	—	—	—	200	(6,721)	—	—	(6,721)
Employee stock plans	137	2	13,229	33	(1,144)	(246)	—	11,841
December 31, 2022	64,481	645	529,791	13,891	(531,507)	1,567,898	(220,500)	1,346,327
Comprehensive income	—	—	—	—	—	15,996	25,371	41,367
Dividends declared (\$0.64 per share)	—	—	—	—	—	(32,412)	—	(32,412)
Residual interest in subsidiary	—	—	(2,381)	—	—	—	—	(2,381)
Employee stock plans	119	1	10,538	23	(908)	(269)	—	9,362
December 31, 2023	<u>64,600</u>	<u>\$ 646</u>	<u>\$ 537,948</u>	<u>13,914</u>	<u>\$ (532,415)</u>	<u>\$ 1,551,213</u>	<u>\$ (195,129)</u>	<u>\$ 1,362,263</u>

See accompanying notes.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(All dollar amounts included in the notes are stated in thousands except per share data
and the tables in Note 21)

1. Summary of Significant Accounting Policies

General: The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Consolidation: The accompanying consolidated financial statements include the accounts of the Company and all of its subsidiaries. Intercompany transactions and account balances have been eliminated.

Revenue recognition: The Company accounts for revenue in accordance with Accounting Standard Codification 606, Revenue from Contracts with Customers. Revenue is recognized by the Company when control of the product or solution is transferred to the customer. Control is generally transferred when products are shipped or delivered to customers, title is transferred, the significant risks and rewards of ownership have transferred, the Company has rights to payment and rewards of ownership pass to the customer. Customer acceptance may also be a factor in determining whether control of the product or solution has transferred. Although revenue is generally transferred at a point in time, a certain portion of businesses with customized products or contracts in which the Company performs work on customer-owned assets requires the use of an over time recognition model as certain contracts meet one or more of the established criteria pursuant to the accounting standards governing revenue recognition. Also, service revenue is recognized as control transfers, which is concurrent with the services being performed. See Note 3. Management fees related to the Aerospace Aftermarket Revenue Sharing Programs ("RSPs") are satisfied through an agreed upon reduction from the sales price of each of the related spare parts. These fees recognize our customer's necessary performance of engine program support activities, such as spare parts administration, warehousing and inventory management, and customer support, and are not separable from our sale of products, and accordingly, they are reflected as a reduction to sales, rather than as costs incurred, when revenues are recognized.

Cash and cash equivalents: Cash in excess of operating requirements is generally invested in short-term, highly liquid, income-producing investments. All highly liquid investments purchased with an original maturity of three months or less are considered cash equivalents. Cash equivalents are carried at cost which approximates fair value.

Accounts receivable: The Company records accounts receivable based on the net amount expected to be collected. Balances are reviewed regularly and reserves are adjusted when events or circumstances indicate carrying values may not be collectable.

Inventories: Inventories are valued at the lower of cost, determined on a first-in, first-out basis, or net realizable value. The primary components of cost included in inventories are raw material, labor and overhead. Provisions are made to reduce excess or obsolete inventories to their estimated net realizable value. The process for evaluating the value of excess and obsolete inventory often requires the Company to make judgments and estimates concerning future sales levels, quantities and prices at which such inventory will be sold in the normal course of business and estimated costs. Accelerating the disposal process or changes in estimates based on future sales potential or estimated costs may necessitate future adjustments to these provisions.

Property, plant and equipment: Property, plant and equipment is recorded at cost. Depreciation is recorded using a straight-line method of depreciation over estimated useful lives, generally ranging from 20 to 50 years for buildings and four to 12 years for machinery and equipment. The Company assesses the impairment of property, plant and equipment whenever events or changes in circumstances indicate the carrying value may not be recoverable.

Business Combinations: In accordance with the Business Combinations guidance, acquisitions are recorded using the acquisition method of accounting. The Company includes the operating results of acquired entities from their respective dates of acquisition. The Company allocates the purchase consideration to the assets acquired and liabilities assumed in the acquired entity generally based on their fair values at the acquisition date. The excess of the fair value of purchase consideration over the fair value of these assets acquired and liabilities assumed in the acquired entity is recorded as goodwill. The primary items that generate goodwill include the increase in global market access and the acquired assembled workforce, neither of which qualify for recognition as an intangible asset. Costs incurred as a result of a business combination other than costs related to the

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

issuance of debt or equity securities are recorded in the period the costs are incurred. During the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to assets acquired and liabilities assumed with the corresponding offset to goodwill. See Note 2.

Goodwill: Goodwill represents the excess purchase price over the fair value of net assets of companies acquired in business combinations. Goodwill is considered an indefinite-lived asset. Goodwill is subject to impairment testing in accordance with accounting standards governing such on an annual basis, in the second quarter, or more frequently if an event or change in circumstances indicates that the fair value of a reporting unit has been reduced below its carrying value. The Company utilizes the option to first assess qualitative factors to determine whether it is necessary to perform the Step 1 quantitative goodwill impairment test in accordance with the applicable accounting standards. Under the qualitative assessment, management considers relevant events and circumstances including but not limited to macroeconomic conditions, industry and market considerations, overall reporting unit performance and events directly affecting a reporting unit. If the Company determines that the Step 1 quantitative impairment test is required, management estimates the fair value of the reporting unit using the income approach. Inherent in management's development of cash flow projections are assumptions and estimates, including those related to forecasted revenue growth rates, forecasted operating margins, and the weighted average cost of capital. The Company compares the fair value of the reporting unit with the carrying value of the reporting unit. If the fair values were to fall below the carrying values, the Company would recognize a non-cash impairment charge to income from operations for the amount by which the carrying amount of any reporting unit exceeds the reporting unit's fair value, assuming the loss recognized does not exceed the total amount of goodwill for the reporting unit. Based on our assessment as of April 1, 2023, the estimated fair value of the Automation reporting unit, which represents the 2018 acquisition of Gimatic, exceeded its carrying value, while the estimated fair value of each of the remaining reporting units significantly exceeded their carrying values. See disclosure related to Other Intangible Assets below and within Note 6.

The Company also performed an annual assessment as of April 1, 2022, during the prior year period. The Company evaluated deteriorating macro-economic conditions subsequent to the date of the assessment, including inflationary pressures, rising interest rates, worsening global supply chain constraints and demand outlook, which materialized during the second quarter of 2022, impacting performance and outlook at Automation and resulted in a triggering event. Management revised its cash flow projections and weighted average cost of capital, resulting in a non-cash goodwill impairment charge of \$68,194 related to the Automation reporting unit as the estimated fair value of the reporting unit declined below its carrying value. Management evaluated the significant increase in interest rates and further deteriorating macro-economic conditions that materialized during the fourth quarter of 2022, again resulting in a triggering event at Automation. Management performed a Step 1 quantitative assessment as of December 31, 2022 and concluded that there was no additional goodwill impairment at the business. The goodwill impairment charge was recorded in the three month period ended June 30, 2022.

Leases: Contracts are evaluated at inception to determine whether they contain a lease. Operating lease right-of use assets and liabilities are recognized based on the present value of the future minimum lease payments over the lease term at the lease commencement date for operating leases with an initial term greater than 12 months. The Company recognizes lease expense for minimum lease payments on a straight line basis over the term of the lease. Certain leases provide the option to purchase the leased property and are therefore evaluated for finance lease consideration. The depreciable life of leased assets are limited by the expected term of the lease, unless there is a transfer of title or purchase option and the Company believes it is reasonably certain of exercise. The Company utilizes its incremental borrowing rate by lease term to calculate the present value of our future lease payments if an implicit rate is not specified. See Note 19.

Aerospace Aftermarket Programs: The Company participates in aftermarket RSPs under which the Company receives an exclusive right to manufacture and supply designated aftermarket parts over the life of the related aircraft engine program. As consideration, the Company has paid participation fees, which are recorded as long-lived intangible assets. The Company records amortization of the related intangible asset as sales dollars are being earned based on a proportional sales dollar method. Specifically, this method amortizes each asset as a reduction to revenue based on the proportion of sales under a program in a given period to the estimated aggregate sales dollars over the life of that program. This method reflects the pattern in which the economic benefits of the RSPs are realized.

The Company also entered into Component Repair Programs ("CRPs") that provide for, among other items, the right to sell certain aftermarket component repair services for CFM56, CF6, CF34 and LM engines directly to other customers as one of a few GE licensed suppliers. In addition, the CRPs extended certain existing contracts under which the Company currently provides these services directly to GE. The Company recorded the consideration paid for these rights as an intangible asset that is amortized as a reduction to sales over the remaining life of these engine programs based on the estimated sales over the life of such programs. This method reflects the pattern in which the economic benefits of the CRPs are realized.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The recoverability of each asset is subject to significant estimates about future revenues related to the program's aftermarket parts and services. The Company evaluates these intangible assets for recoverability and updates amortization rates on an agreement by agreement basis for the RSPs and on an individual asset program basis for the CRPs. The assets are reviewed for recoverability periodically including whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. At least annually, the Company evaluates the remaining useful life of these assets to determine whether events and circumstances warrant a revision to the remaining periods of amortization. Management updates revenue projections, which includes comparing actual experience against projected revenue and industry projections. The potential exists that actual revenues will not meet expectations due to a change in market conditions including, for example, the replacement of older engines with new, more fuel-efficient engines or the Company's ability to maintain market share within the Aerospace Aftermarket Products and Services ("Aftermarket") business, which includes maintenance repair and overhaul ("MRO") services and the manufacture and delivery of aerospace aftermarket spare parts. A shortfall in future revenues may indicate a triggering event requiring a write down or further evaluation of the recoverability of the assets or require the Company to accelerate amortization expense prospectively dependent on the level of the shortfall. The Company has not identified any impairment of these assets, although changes in projected RSP and CRP revenue has impacted amortization rates that will be applied in remaining periods.

Other Intangible Assets: Other intangible assets consist primarily of the Aerospace Aftermarket programs, as discussed above, customer relationships, tradenames, patents and proprietary technology. These intangible assets, with the exception of certain tradenames, have finite lives and are amortized over the periods in which they provide benefit. The Company assesses the impairment of long-lived assets, including identifiable intangible assets subject to amortization, whenever significant events or significant changes in circumstances indicate the carrying value may not be recoverable. Tradenames with indefinite lives are subject to impairment testing in accordance with accounting standards governing such on an annual basis, in the second quarter, or more frequently if an event or change in circumstances indicates that the fair value of the asset has been reduced below its carrying value. Based on the assessments performed during 2023, there were no impairments of other intangible assets. See Note 6.

Derivatives: Accounting standards related to the accounting for derivative instruments and hedging activities require that all derivative instruments be recorded on the balance sheet at fair value. Foreign currency contracts may qualify as fair value hedges of unrecognized firm commitments, cash flow hedges of recognized assets and liabilities or anticipated transactions, or a hedge of a net investment. Changes in the fair market value of derivatives that qualify as fair value hedges or cash flow hedges are recorded directly to earnings or accumulated other non-owner changes to equity, depending on the designation. Amounts recorded to accumulated other non-owner changes to equity are reclassified to earnings in a manner that matches the earnings impact of the hedged transaction. Any ineffective portion, or amounts related to contracts that are not designated as hedges, are recorded directly to earnings. The Company's policy for classifying cash flows from derivatives is to report the cash flows consistent with the underlying hedged item. See Note 10.

Foreign currency: Assets and liabilities are translated at year-end rates of exchange; revenues and expenses are translated at average rates of exchange. The resulting translation gains or losses are reflected in accumulated other non-owner changes to equity within stockholders' equity. Net foreign currency transaction losses of \$5,321, \$540 and \$572 in 2023, 2022 and 2021, respectively, were recorded within other expense (income), net in the Consolidated Statements of Income.

Research and Development: Costs are incurred in connection with efforts aimed at discovering and implementing new knowledge that is critical to developing new products, processes or services, significantly improving existing products or services, and developing new applications for existing products and services. Research and development expenses for the creation of new and improved products, processes and services were \$13,920, \$15,774 and \$22,928, for the years 2023, 2022 and 2021, respectively, and are included in selling and administrative expense.

Pension and Other Postretirement Benefits: The Company accounts for its defined benefit pension plans and other postretirement plans by recognizing the overfunded or underfunded status of the plans, calculated as the difference between plan assets and the projected benefit obligation related to each plan, as an asset or liability on the Consolidated Balance Sheets. Benefit costs associated with the plans primarily include current service costs, interest costs and the amortization of actuarial losses, partially offset by expected returns on plan assets, which are determined based upon actuarial valuations. Settlement and curtailment losses (gains) may also impact benefit costs. The Company regularly reviews actuarial assumptions, including discount rates and the expected return on plan assets, which are updated at the measurement date, December 31st. The impact of differences between actual results and the assumptions are generally accumulated within Other Comprehensive Income and amortized over future periods, which will affect benefit costs recognized in such periods. The Company bifurcates the

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

components of net periodic benefit cost for pension and other postretirement plans. The service cost component of expense requires presentation within other employee compensation costs in operating income, whereas the other components of expense are reported separately outside of operating income. See Note 12.

Stock-Based Compensation: Stock-based employee compensation awards are accounted for based on their fair value on the grant date and the related cost is recognized in the Consolidated Statements of Income in accordance with accounting standards related to share-based payments. The fair values of stock options are estimated using the Black-Scholes option-pricing model based on certain assumptions. The fair values of service and performance based share awards are estimated based on the fair market value of the Company's stock price on the grant date. The fair values of market based performance share awards and performance-vested stock options are estimated using the Monte Carlo valuation method. See Note 13.

Income Taxes: Deferred tax assets and liabilities are recognized for future tax effects attributable to temporary differences, operating loss carryforwards and tax credits. The measurement of deferred tax assets and liabilities is determined using tax rates from enacted tax law of the period in which the temporary differences, operating loss carryforwards and tax credits are expected to be realized. The effect of a change in income tax rates is recognized in the period of the enactment date. The guidance related to accounting for income taxes requires that deferred tax assets be reduced by a valuation allowance if, based on all available evidence, it is more likely than not that the deferred tax asset will not be realized. The Company is exposed to certain tax contingencies in the ordinary course of business and records those tax liabilities in accordance with the guidance for accounting for uncertain tax positions. The Company has elected to account for tax on Global Intangible Low-Taxed Income ("GILTI") as a period cost, when incurred. See Note 14.

Recent Accounting Standards

The Financial Accounting Standards Board ("FASB") establishes changes to accounting principles under U.S. GAAP through the use of Accounting Standards Updates ("ASUs") to the FASB's Accounting Standards Codification. The Company evaluates the applicability and potential impacts of recent ASUs on its Consolidated Financial Statements and related disclosures.

Recently Adopted Accounting Standards

In December 2019, the FASB amended its guidance related to income taxes. The amended guidance simplifies the accounting for income taxes, eliminating certain exceptions to the general income tax principles, in an effort to reduce the cost and complexity of application. The amended guidance was effective for annual periods beginning after December 15, 2020, and interim periods within those reporting periods. The guidance requires application on either a prospective, retrospective or modified retrospective basis, contingent on the income tax exception being applied. The Company has adopted this guidance, on a prospective basis, on January 1, 2021 and it did not have a material impact on the Company's Consolidated Financial Statements.

In October 2021, the FASB amended its guidance related to business combinations. The amended guidance requires entities to recognize and measure contract assets and contract liabilities acquired in business combinations on the acquisition date in accordance with Accounting Standards Codification 606, *Revenue from Contracts with Customers*. The new guidance was effective on a prospective basis for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2022, with early adoption permitted. The Company adopted this guidance, on a prospective basis, on January 1, 2023 and applied the guidance as it relates to the acquisition of MB Aerospace Holdings, Inc. See Note 2.

In September 2022, the FASB amended its guidance related to supplier finance programs. The amended guidance requires additional disclosures surrounding the use of supplier finance programs to purchase goods or services including disclosing the key terms of the programs, the amount of obligations outstanding at the end of the reporting period, and a roll-forward of those obligations. The new guidance, except the amendment on roll-forward information, was effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. The amendment on roll-forward information is effective for fiscal years beginning after December 15, 2023. The Company adopted this guidance within the Consolidated Financial Statements filed as of March 31, 2023 and it did not have a material impact on the Company's Consolidated Financial Statements, however it did result in additional disclosures pursuant to the new guidance. See Note 22.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Recently Issued Accounting Standards

The United Kingdom's Financial Conduct Authority, which regulates the London Interbank Offered Rate ("LIBOR"), announced its intent to phase out the use of LIBOR by December 31, 2021. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, a steering committee comprised of large U.S. financial institutions, identified the Secured Overnight Financing Rate ("SOFR") as its preferred benchmark alternative to U.S. dollar LIBOR. Published by the Federal Reserve Bank of New York, SOFR represents a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is calculated based on directly observable U.S. Treasury-backed repurchase transactions. In March 2020, in response to this transition, the FASB issued guidance related to this rate reform, which provides optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued by reference rate reform, and addresses operational issues likely to arise in modifying contracts to replace discontinued reference rates with new rates. In January 2021, the FASB issued further clarifying guidance regarding derivatives, as it relates to this transition. In December 2022, the FASB extended the expiration of the guidance through December 31, 2024. The Company's Unsecured Credit Agreement (see Note 8) and corresponding USD interest rate Swaps (see Note 10) each mature in February 2026. In March 2021, the Intercontinental Exchange Benchmark Association announced that it will extend the publication of overnight, 1, 3, 6 and 12 month LIBOR rates until June 30, 2023, while ceasing publication of all other LIBOR rates including 1 week and 2 month rates. The Company's Unsecured Credit Agreement was further amended in October 2021 and in April 2022 to address the replacement of LIBOR via the LIBOR Transition Agreement and Amendment No. 1, respectively (see Note 8), with SOFR. The Company's corresponding interest rate Swaps were amended in May 2022 to address the replacement of LIBOR. In June 2023, the Company entered into Amendment No. 2 ("Amendment No. 2") to the Unsecured Credit Agreement, which also addressed the option for the Company to borrow under the terms of SOFR (see Note 8). As a result of the Company's contract amendments to address the replacement of LIBOR, the Company does not anticipate a material impact on our business, financial condition, results of operations or cash flow as a result of this change.

In November 2023, the FASB amended its guidance related to segment reporting requirements. The amended guidance serves to improve segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The amended guidance is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The guidance requires application on a retrospective basis to all periods presented. The Company is currently evaluating the impact that the guidance may have on the disclosures within its Consolidated Financial Statements.

In December 2023, the FASB amended its guidance related to income tax disclosure requirements. The amended guidance requires establishes new income tax disclosure requirements including providing greater disaggregation in the rate reconciliation and information on taxes paid. The amended guidance is effective for annual periods beginning after December 15, 2024. Early adoption is permitted. The Company is currently evaluating the impact that the guidance may have on the disclosures within its Consolidated Financial Statements.

2. Acquisition

On August 31, 2023 ("Acquisition Date"), the Company completed its acquisition of MB Aerospace Holdings Inc., a Delaware corporation ("MB Aerospace"), along with such entity's subsidiaries (the "Transaction") by acquiring all of the issued and outstanding shares of capital stock of MB Aerospace. MB Aerospace is a leading provider of precision aero-engine component manufacture and repair services serving major aerospace and defense engine original equipment manufacturers ("OEMs"), tier 1 suppliers and maintenance, repair and overhaul ("MRO") providers. This business, which is being integrated into our Aerospace segment, provides significant growth opportunities and enhances the Company's ability to deliver value-add solutions across the aero-engine value chain. Further, the acquisition of MB Aerospace increases customer diversification within both commercial aerospace and defense platforms and provides the Company with a well-balanced portfolio across aerospace and industrial end markets.

The Company acquired MB Aerospace for an aggregate purchase price of \$728,448, which includes post-closing adjustments under the terms of the Stock Purchase Agreement ("the Agreement"). The Company paid \$718,782, net of \$9,825 of cash acquired, in cash, using cash on hand and borrowings under the Company's \$1,000,000 Revolving Credit Facility and its \$650,000 Term Loan Facility (see Note 8). In connection with the terms of the Agreement, the Company recorded \$159 of post-closing adjustments due from the seller within Accounts receivable as of December 31, 2023.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

During the twelve months ended December 31, 2023, the Company incurred \$23,829 of acquisition-related costs related to the acquisition of MB Aerospace. These costs include \$2,071 of due diligence costs and \$21,758 of transaction costs to complete the acquisition. These acquisition related costs have been recognized in the Company's Consolidated Statements of Income, of which \$14,223 was recognized as selling and administrative expenses and of which \$9,606 primarily relating to the bridge loan facility financing was recognized as Interest expense (see Note 8).

The operating results of MB Aerospace have been included in the Consolidated Statements of Income since the Acquisition Date. The Company reported \$114,469 in net sales and an operating loss of \$13,884 from MB Aerospace, included within the Aerospace segment's operating profit, inclusive of \$19,192 of short-term purchase accounting adjustments related to inventory step-up and backlog intangible amortization and \$8,182 of amortization of other intangible assets acquired, for the period from the Acquisition Date through December 31, 2023.

Estimated Fair Value of Assets Acquired and Liabilities Assumed

The Company accounted for the MB Aerospace acquisition as a business combination. The identifiable assets acquired and liabilities assumed are recorded at their preliminary fair values as of the Acquisition Date, inclusive of subsequent purchase price adjustments, and are consolidated into the Company's consolidated financial statements. The assignment of fair market value requires significant judgments regarding the estimates and assumptions used to value the acquired assets and liabilities assumed. In determining the fair values of the assets acquired and liabilities assumed, the Company utilized the cost, income and market approaches from the perspective of a market participant. The fair value of the customer relationship intangible asset was determined as of the acquisition date utilizing the multi-period excess earnings method. This method is based on estimates and judgments relating to expectations for the future after-tax cash flows arising from customer relationships that existed on the acquisition date over their estimated lives, including those related to forecasted revenue growth rates, gross margins and customer attrition rates, all of which are discounted to present value using appropriate discount rates. The fair value of the developed technology intangible asset was determined utilizing the relief from royalty method which is a form of the income approach. Under this method, an after-tax royalty rate based on market royalty rates is applied to forecasted revenue growth rates associated with the developed technology and discounted to present value using appropriate discount rates. The Company used third party valuation professionals to aid in the determination of the estimated fair value of certain assets acquired and liabilities assumed.

The following table summarizes the estimated fair values for each major class of assets acquired, net of cash acquired, and liabilities assumed at the Acquisition Date, inclusive of subsequent purchase price adjustments:

Accounts receivable	\$ 50,715
Inventories	77,914
Prepaid expenses and other current assets	18,093
Property, plant and equipment	80,480
Goodwill	320,883
Other intangible assets	320,000
Other Assets	10,627
Total Assets Acquired	878,712
Accounts payable	(21,826)
Accrued liabilities	(35,701)
Deferred income taxes	(83,480)
Other liabilities	(9,659)
Debt assumed	(9,423)
Total Liabilities Assumed	(160,089)
Net Assets Acquired	\$ 718,623

Goodwill represents the excess of the purchase consideration over the fair value of the underlying acquired net tangible and intangible assets. Goodwill has been allocated to the Company's Aerospace segment. The Company recorded the estimated fair values of the assets acquired and liabilities assumed of MB Aerospace as of August 31, 2023. The final purchase price

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

allocation is subject to the finalization of fair value estimates. Estimates and assumptions used in such valuations are subject to change, which could be significant, within the measurement period up to one year from the acquisition date. The areas of the valuations that are not yet finalized relate to the amounts for property, plant and equipment, leases, income taxes, long term intangible assets and the final amount of residual goodwill. The Company may obtain additional information to assist in determining fair values of net assets acquired at the Acquisition Date during the measurement period. The Company recorded purchase accounting adjustments during the fourth quarter of 2023 and allocated an additional \$2,576 to Goodwill. None of the recognized goodwill from the acquisition of MB Aerospace is expected to be deductible for income tax purposes (see Note 6).

The Other intangible assets in the table above consist of backlog, developed technology, and customer relationships, which are amortized over their respective estimated useful lives (see Note 6).

Supplemental Pro Forma Information

The following table reflects the unaudited pro forma operating results of the Company for the twelve months ended December 31, 2023 and 2022, which give effect to the acquisition of MB Aerospace as if it had occurred on January 1, 2022. The pro forma results are based on assumptions that the Company believes are reasonable under the circumstances. The pro forma results are not necessarily indicative of the operating results that would have occurred had the acquisition been effective January 1, 2022, nor are they intended to be indicative of results that may occur in the future. The underlying pro forma information includes the historical financial results of the Company and MB Aerospace adjusted for certain items including depreciation and amortization expense associated with the assets acquired and the Company's expense related to financing arrangements, with the related tax effects.

The unaudited pro forma combined condensed financial information has been prepared using the acquisition method of accounting in accordance with Accounting Standards Codification 805, Business Combinations ("ASC 805").

The pro forma information does not include the effects of any synergies or cost reduction initiatives related to the acquisition.

	Twelve months ended December 31,	
	2023	2022
Net sales	\$ 1,664,652	\$1,544,888
Net income (loss)	21,942	(77,355)

The unaudited pro forma combined condensed financial information during the twelve months ended December 31, 2023 were adjusted to include:

- a. *Depreciation and Amortization* - Adjustment of \$(4,413) to reflect the adjustment to property, plant, and equipment depreciation and amortization expense from the acquired backlog, developed technology and customer relationships.
- b. *Transaction Costs* - Adjustment of \$(14,224) to reflect the elimination of non-recurring transaction costs.
- c. *Interest Expense* - Adjustment of \$3,209 to reflect the adjustment to interest expense resulting from interest on the new debt to finance the acquisition of MB Aerospace and the extinguishment of MB Aerospace's existing debt and the amortization of related debt issuance costs.
- d. *Inventory Step-Up* - Adjustment of \$(8,318) to eliminate the inventory fair value adjustment that was recognized in cost of sales.
- e. *Income Taxes* - The estimated tax impacts of the pro forma adjustments have been reflected within the unaudited pro forma condensed combined statement of operations by using a blended foreign, federal and state statutory income tax rate.

The unaudited pro forma combined condensed financial information during the twelve months ended December 31, 2022 were adjusted to include:

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

a. *Depreciation and Amortization* - Adjustment of \$21,924 to reflect the adjustment to property, plant, and equipment depreciation and the amortization expense from the acquired backlog, developed technology and customer relationships.

b. *Transaction Costs* - Adjustment of \$14,224 to reflect non-recurring transaction costs.

c. *Interest Expense* - Adjustment of \$26,881 to reflect the adjustment to interest expense resulting from interest on the new debt to finance the acquisition of MB Aerospace and the extinguishment of MB Aerospace's existing debt and the amortization of related debt issuance costs.

d. *Inventory Step-Up* - Adjustment of \$9,635 to reflect the increase in cost of sales for the impact of the \$9,635 fair value adjustment to inventory for the acquired inventory.

e. *Income Taxes* - The estimated tax impacts of the pro forma adjustments have been reflected within the unaudited pro forma condensed combined statement of operations by using a blended foreign, federal and state statutory income tax rate.

3. Revenue

The Company is a global provider of highly engineered products, differentiated industrial technologies, and innovative solutions, serving a wide range of end markets and customers. Its specialized products and services are used in far-reaching applications in aerospace, healthcare, automation, packaging, mobility, and manufacturing.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following tables present the Company's revenue disaggregated by products and services, geographic regions and end markets, by segment:

	2023		
	Aerospace ^(A)	Industrial	Total Company
Product and Services			
Aerospace OEM	\$ 382,126	\$ —	\$ 382,126
Aerospace Aftermarket	225,924	—	225,924
Molding Solutions Products	—	408,691	408,691
Motion Control Solutions Products ^(B)	—	372,877	372,877
Automation Products	—	61,253	61,253
	<u>\$ 608,050</u>	<u>\$ 842,821</u>	<u>\$ 1,450,871</u>
Geographic Regions ^(C)			
Americas	\$ 430,527	\$ 364,215	794,742
Europe	115,973	312,402	428,375
Asia	58,419	157,949	216,368
Rest of World	3,131	8,255	11,386
	<u>\$ 608,050</u>	<u>\$ 842,821</u>	<u>\$ 1,450,871</u>
End Markets			
Aerospace OEM	\$ 382,126	\$ 14,862	\$ 396,988
Aerospace Aftermarket	225,924	—	225,924
Medical, Personal Care & Packaging	—	201,969	201,969
Tool and Die	—	72,914	72,914
General Industrial	—	265,313	265,313
Automotive Molding Solutions	—	116,692	116,692
Automotive Production	—	109,818	109,818
Automation	—	61,253	61,253
	<u>\$ 608,050</u>	<u>\$ 842,821</u>	<u>\$ 1,450,871</u>

(A) The results of MB Aerospace, from the acquisition completed on August 31, 2023, have been included within the Company's revenue disaggregated by products and services, geographic regions and end markets within the Aerospace Segment for the year ended December 31, 2023.

(B) Effective January 1, 2023, the Company combined Industrial's Force & Motion Control and Engineered Components businesses to form a single strategic business unit named Motion Control Solutions. As a result of the combination, Motion Control Solutions Products reflects product revenues that were previously disclosed as Force & Motion Control Products and Engineered Components Products. Prior period amounts have been reclassified to conform to the current year presentation.

(C) Sales by geographic region are based on the location to which the product is shipped and services are delivered.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	2022		
	Aerospace	Industrial	Total Company
Product and Services			
Aerospace OEM Products	\$ 265,179	\$ —	\$ 265,179
Aerospace Aftermarket	163,974	—	163,974
Molding Solutions Products	—	402,598	402,598
Motion Control Solutions Products ^(A)	—	370,655	370,655
Automation Products	—	59,462	59,462
	<u>\$ 429,153</u>	<u>\$ 832,715</u>	<u>\$ 1,261,868</u>
Geographic Regions ^(B)			
Americas	\$ 307,712	\$ 357,032	\$ 664,744
Europe	79,283	296,856	376,139
Asia	37,348	172,922	210,270
Rest of World	4,810	5,905	10,715
	<u>\$ 429,153</u>	<u>\$ 832,715</u>	<u>\$ 1,261,868</u>
End Markets			
Aerospace OEM	\$ 265,179	\$ 12,541	\$ 277,720
Aerospace Aftermarket	163,974	—	163,974
Medical, Personal Care & Packaging	—	186,729	186,729
Tool and Die	—	85,947	85,947
General Industrial	—	254,681	254,681
Automotive Molding Solutions	—	138,978	138,978
Automotive Production	—	94,377	94,377
Automation	—	59,462	59,462
	<u>\$ 429,153</u>	<u>\$ 832,715</u>	<u>\$ 1,261,868</u>

(A) Effective January 1, 2023, the Company combined Industrial's Force & Motion Control and Engineered Components businesses to form a single strategic business unit named Motion Control Solutions. As a result of the combination, Motion Control Solutions Products reflects product revenues that were previously disclosed as Force & Motion Control Products and Engineered Components Products. Prior period amounts have been reclassified to conform to the current year presentation.

(B) Sales by geographic region are based on the location to which the product is shipped and services are delivered.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	2021		
	Aerospace	Industrial	Total Company
Product and Services			
Aerospace OEM Products	\$ 246,850	\$ —	\$ 246,850
Aerospace Aftermarket	115,513	—	115,513
Molding Solutions Products	—	458,681	458,681
Motion Control Solutions Products ^(A)	—	369,838	369,838
Automation Products	—	67,964	67,964
	<u>\$ 362,363</u>	<u>\$ 896,483</u>	<u>\$ 1,258,846</u>
Geographic Regions ^(B)			
Americas	\$ 271,241	\$ 356,518	\$ 627,759
Europe	58,237	335,679	393,916
Asia	29,701	199,578	229,279
Rest of World	3,184	4,708	7,892
	<u>\$ 362,363</u>	<u>\$ 896,483</u>	<u>\$ 1,258,846</u>
End Markets			
Aerospace OEM	\$ 246,850	\$ 9,278	\$ 256,128
Aerospace Aftermarket	115,513	—	115,513
Medical, Personal Care & Packaging	—	219,672	219,672
Tool and Die	—	95,466	95,466
General Industrial	—	255,942	255,942
Automotive Molding Solutions	—	150,125	150,125
Automotive Production	—	98,036	98,036
Automation	—	67,964	67,964
	<u>\$ 362,363</u>	<u>\$ 896,483</u>	<u>\$ 1,258,846</u>

(A) Effective January 1, 2023, the Company combined Industrial's Force & Motion Control and Engineered Components businesses to form a single strategic business unit named Motion Control Solutions. As a result of the combination, Motion Control Solutions Products reflects product revenues that were previously disclosed as Force & Motion Control Products and Engineered Components Products. Prior period amounts have been reclassified to conform to the current year presentation.

(B) Sales by geographic region are based on the location to which the product is shipped and services are delivered.

Revenue from products and services transferred to customers at a point in time accounted for approximately 80 percent of revenue for the years ended December 31, 2023, 2022 and 2021. A majority of revenue within the Industrial segment and Aerospace OEM business, along with a portion of revenue within the Aerospace Products and Services business ("Aftermarket") business, is recognized at a point in time, primarily when the product or solution is shipped to the customer.

Revenue from products and services transferred to customers over-time accounted for approximately 20 percent of revenue for the years ended December 31, 2023, 2022 and 2021. The Company recognizes revenue over-time in instances where a contract supports a continual transfer of control to the customer. Substantially all of our revenue in the Aerospace Aftermarket maintenance repair and overhaul business (within Aftermarket Products and Services) and a portion of the revenue for Motion Control Solutions products, Molding Solutions products and Aerospace OEM products is recognized over-time. Within the Molding Solutions and Aerospace Aftermarket businesses, this continual transfer of control to the customer partially results from repair and refurbishment work performed on customer-controlled assets. With other contracts, this continual transfer of control to the customer is supported by clauses in the contract, or governing commercial law of the relevant jurisdiction, where we deliver products that do not have an alternative use and require an enforceable right to payment of costs incurred (plus a reasonable profit) or the Company has a contractual right to complete any work in process and receive full contract price.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Performance Obligations. A performance obligation represents a promise within a contract to provide a distinct good or service to the customer. The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. Transaction price reflects the amount of consideration to which the Company expects to be entitled in exchange for transferred goods or services. A contract's transaction price is allocated to each distinct performance obligation and revenue is recognized as the performance obligation is satisfied.

The majority of our revenues is from contracts that are less than one year, however certain Aerospace OEM and Molding Solutions business contracts extend beyond one year. In the Industrial segment, customers are typically OEMs or suppliers to OEMs and, in some businesses, distributors. In the Aerospace segment, customers include commercial airlines, OEMs and other aircraft and defense-related parts and service providers.

To determine the proper revenue recognition method for contracts, the Company uses judgment to evaluate whether two or more contracts should be combined and accounted for as one single contract and whether the combined or single contract should be accounted for as more than one performance obligation. Contracts within the Aerospace OEM and Industrial Engineered Components businesses typically have contracts that are combined as the customer may issue multiple purchase orders at or near the same point in time under the terms of a long term agreement.

Revenue is recognized in an over-time model based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. The Company utilizes the cost-to-cost measure of progress for over time contracts as we believe this measure best depicts the transfer of control to the customer, which occurs as we incur costs on contracts.

Contract Estimates. Due to the nature of the work performed in completing certain performance obligations, the estimation of both total revenue and cost at completion includes a number of variables and requires significant judgment, as described further below.

Estimating total contract revenue requires judgment as certain contracts contain pricing discount structures, rebates, early payment discounts, or other provisions that can impact transaction price. The Company generally estimates variable consideration utilizing the expected value methodology as multiple inputs are considered and weighed, such as customer history, customer forecast communications, economic outlooks, and industry data. In certain circumstances where a particular outcome is probable, we utilize the most likely amount to which we expect to be entitled. The Company includes estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved.

Estimating the total expected costs related to contracts also requires significant judgment. A portion of our Aerospace OEM business as well as a portion of our Molding Solutions Products business has an Estimate at Completion process in which management reviews the progress and execution of our performance obligations for significant contracts with revenue recognized under an over-time model. As part of this process, management reviews information including, but not limited to, performance under the contract, progress towards completion, identified risks and opportunities, sourcing determinations and related changes in estimates of costs to be incurred. These considerations include management's judgment about the ability and cost to achieve technical requirements and other contract requirements. Management makes assumptions and estimates regarding labor efficiency, the complexity of the work to be performed, the availability of materials, the length of time to complete the performance obligation (e.g., to estimate increases in wages and prices for materials and related support cost allocations), execution by our subcontractors and overhead cost rates, among other variables.

The Company generally utilizes the portfolio approach to estimate the amount of revenue to recognize for certain other contracts which require over-time revenue recognition. Such contracts are grouped together either by revenue stream, customer or product. Each portfolio of contracts is grouped together based on having similar characteristics. The portfolio approach is utilized only when the result of the accounting is not expected to be materially different than if applied to individual contracts.

Adjustments to net sales, cost of sales and the related impact to operating income are recognized as necessary in the period they become known. Revenue recognized from performance obligations satisfied in previous periods was not material in 2023, 2022 or 2021.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Contract Balances. The timing of revenue recognition, invoicing and cash collections affects accounts receivable, unbilled receivables (contract assets) and customer advances and deposits (contract liabilities) on the Consolidated Balance Sheets.

Unbilled Receivables (Contract Assets) - Pursuant to the over-time revenue recognition model, revenue may be recognized prior to the customer being invoiced. An unbilled receivable is recorded to reflect revenue that is recognized when 1) the cost-to-cost method is applied and 2) such revenue exceeds the amount invoiced to the customer. Unbilled receivables are included within Prepaid Expenses and Other Current Assets on the Consolidated Balance Sheets as of December 31, 2023 and 2022.

Customer Advances and Deposits (Contract Liabilities) - The Company may receive a customer advance or deposit, or have an unconditional right to receive a customer advance, prior to revenue being recognized. Certain contracts within the Molding Solutions business, for example, may require such advances. Since the performance obligations related to such advances have not been satisfied, a contract liability is established. An offsetting asset of equal amount is recorded as an account receivable until the advance is collected. Advances and deposits are included within Accrued Liabilities on the Consolidated Balance Sheets until the respective revenue is recognized. Advance payments are not considered a significant financing component as they are generally received less than one year before the customer solution is completed. These assets and liabilities are reported on the Consolidated Balance Sheets on an individual contract basis at the end of each reporting period.

Net contract assets (liabilities) consisted of the following:

	December 31, 2023	December 31, 2022	\$ Change	% Change
Unbilled receivables (contract assets)	\$ 59,652	\$ 42,423	\$ 17,229	41 %
Contract liabilities	(42,428)	(27,857)	(14,571)	52 %
Net contract assets	<u>\$ 17,224</u>	<u>\$ 14,566</u>	<u>\$ 2,658</u>	<u>18 %</u>

Contract liabilities balances at December 31, 2023 and December 31, 2022 include \$10,032 and \$9,593, respectively, of customer advances for which the Company has not yet collected payment, but an unconditional right to collect payment. Accounts receivable, as presented on the Consolidated Balance Sheet, includes corresponding balances at December 31, 2023 and December 31, 2022, respectively.

Changes in the net contract assets balance during the year ended December 31, 2023 included a \$17,229 increase in contract assets, driven primarily by contract progress (i.e. unbilled receivable), partially offset by earlier contract progress being invoiced to the customer. Of this contract asset increase, \$14,446 was attributable to MB Aerospace at December 31, 2023. Partially offsetting this increase in net contract assets was a \$14,571 increase in contract liabilities, driven primarily by new customer advances and deposits, partially offset by revenue recognized in the current period.

The Company recognized approximately 90% of the revenue related to the contract liability balance as of December 31, 2022 during the year ended December 31, 2023 and approximately 90% of the revenue related to the contract liability balance as of December 31, 2021 during the year ended December 31, 2022, primarily representing revenue from the sale of molds and hot runner systems within the Molding Solutions business.

Contract Costs. The Company may incur costs to fulfill a contract. Costs are incurred to develop, design and manufacture tooling to produce a customer's customized product in conjunction with certain of its contracts, primarily in the Aerospace OEM business. For certain contracts, control related to this tooling remains with the Company. The tooling may be deemed recoverable over the life of the related customer contract (oftentimes a long-term agreement). The Company therefore capitalizes these tooling costs and amortizes them over the shorter of the tooling life or the duration of the long-term agreement. The Company may also incur costs related to the development of product designs (molds or hot runner systems) within its Molding Solutions business. Control of the design may be retained by the Company and deemed recoverable over the contract to build the systems or mold, therefore this design work cost is capitalized and amortized to cost of sales when the related revenue is recognized. Amortization related to these capitalized costs to fulfill a contract were \$9,976, \$12,518, and \$13,446 in the years ended December 31, 2023, 2022 and 2021, respectively.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Capitalized costs, net of amortization, to fulfill a contract balances were as follows:

	December 31, 2023	December 31, 2022
Tooling	\$ 4,271	\$ 2,728
Design costs	2,525	2,887
	<u>\$ 6,796</u>	<u>\$ 5,615</u>

Remaining Performance Obligations. The Company has elected to disclose remaining performance obligations only for contracts with an original duration of greater than one year. Such remaining performance obligations represent the transaction price of firm orders for which work has not yet been performed and, for Aerospace, excludes projections of components and assemblies that Aerospace OEM customers anticipate purchasing in the future under existing programs, which represent orders that are beyond lead time and do not represent performance obligations pursuant to the accounting guidance. As of December 31, 2023, the aggregate amount of the transaction price allocated to remaining performance obligations was \$526,113. The Company expects to recognize revenue on approximately 75% of the remaining performance obligations over the next 12 months, with the remainder being recognized within 24 months.

4. Inventories

Inventories at December 31 consisted of:

	2023	2022
Finished goods	\$ 104,801	\$ 105,965
Work-in-process	105,737	68,664
Raw materials and supplies	154,683	108,773
	<u>\$ 365,221</u>	<u>\$ 283,402</u>

5. Property, Plant and Equipment

Property, plant and equipment, net, at December 31 consisted of:

	2023	2022
Land	\$ 16,594	\$ 18,018
Buildings	198,207	184,909
Machinery and equipment	816,694	704,053
	<u>1,031,495</u>	<u>906,980</u>
Less accumulated depreciation	<u>(628,798)</u>	<u>(586,841)</u>
	<u>\$ 402,697</u>	<u>\$ 320,139</u>

Depreciation expense was \$52,086, \$47,163 and \$47,600 during 2023, 2022 and 2021, respectively.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

6. Goodwill and Other Intangible Assets

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

	Aerospace	Industrial	Total Company
January 1, 2022	\$ 30,786	\$ 924,584	\$ 955,370
Impairment charge (see below)	—	(68,194)	(68,194)
Foreign currency translation	—	(51,704)	(51,704)
December 31, 2022	30,786	804,686	835,472
Acquisition-related	320,883	—	320,883
Foreign currency translation	683	26,586	27,269
December 31, 2023 ^(A)	<u>\$ 352,352</u>	<u>\$ 831,272</u>	<u>\$ 1,183,624</u>

^(A) Industrial amounts are net of accumulated goodwill impairment losses of \$68,194.

The changes recorded at Aerospace include \$320,883 of goodwill in 2023 resulting from the acquisition of MB Aerospace in August 2023. See Note 2. The amounts allocated to goodwill reflect the benefits that the Company expects to realize from an increase in global market access and MB Aerospace's assembled workforce. None of the recognized goodwill from the acquisition of MB Aerospace is expected to be deductible for income tax purposes.

During the year ended December 31, 2022, the Company recorded a non-cash goodwill impairment charge of \$68,194 related to the Automation reporting unit as the estimated fair value of the reporting unit declined below its carrying value. The Company has continued to evaluate macro-economic conditions through December 31, 2023. Based on our subsequent assessments, there was no additional impairment of goodwill as of December 31, 2023.

Other Intangible Assets: Other intangible assets at December 31 consisted of:

		2023		2022	
	Range of Life-Years	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Amortized intangible assets:					
Revenue Sharing Programs	Up to 30	\$ 299,500	\$ (176,143)	\$ 299,500	\$ (164,162)
Component Repair Programs	Up to 30	111,839	(49,577)	111,839	(41,880)
Customer relationships	10-16	586,189	(180,679)	337,189	(156,442)
Patents and technology	4-18	178,433	(100,662)	123,433	(92,875)
Trademarks/trade names	10-30	10,949	(10,910)	10,949	(10,772)
Other	Up to 10	26,334	(14,857)	9,413	(2,966)
		1,213,244	(532,828)	892,323	(469,097)
Unamortized intangible assets:					
Trade names		55,670	—	55,670	—
Foreign currency translation		(29,615)	—	(36,404)	—
Other intangible assets		\$ 1,239,299	\$ (532,828)	\$ 911,589	\$ (469,097)

In connection with the acquisition of MB Aerospace in August 2023, the Company recorded intangible assets of \$320,000 which includes \$249,000 of customer relationships, \$55,000 of developed technology, and \$16,000 of customer backlog included within Other above. The estimated weighted-average useful lives of the acquired assets were 15 years, 18 years and 1 year, respectively.

The Company has entered into a number of Aftermarket RSP and CRP agreements each of which is with our customer, General Electric ("GE"). See Note 1 for a further discussion of these programs. As of December 31, 2023, the Company has made all required payments under the RSP and CRP agreements.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Amortization of intangible assets for the years ended December 31, 2023, 2022 and 2021 was \$63,732, \$44,987 and \$43,485, respectively. Estimated amortization of intangible assets for future periods is as follows: 2024 - \$70,000; 2025 - \$69,000; 2026 - \$66,000; 2027 - \$64,000 and 2028 - \$60,000.

7. Accrued Liabilities

Accrued liabilities at December 31 consisted of:

	2023	2022
Payroll and other compensation	\$ 45,764	\$ 32,276
Contract liabilities (Note 3)	42,428	27,857
Pension and other postretirement benefits (Note 12)	8,124	10,999
Accrued income taxes	49,138	29,201
Lease liability (Note 19)	10,894	10,209
Business reorganizations (Note 9)	10,276	11,000
Other	54,838	37,026
	<u>\$ 221,462</u>	<u>\$ 158,568</u>

8. Debt and Commitments

Long-term debt and notes and overdrafts payable at December 31 consisted of:

	2023		2022	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Revolving Credit Facility	\$ 642,988	\$ 646,843	\$ 466,672	\$ 464,373
Term Loan Facility	648,375	651,215	—	—
Unamortized deferred financing costs and original issue discount - Term Loan Facility	(12,532)	—	—	—
3.97% Senior Notes	—	—	100,000	96,894
Borrowings under lines of credit and overdrafts	16	16	8	8
Finance leases	11,999	11,732	4,404	4,085
	<u>1,290,846</u>	<u>1,309,806</u>	<u>571,084</u>	<u>565,360</u>
Less current maturities	(10,884)		(1,445)	
Long-term debt	<u>\$ 1,279,962</u>		<u>\$ 569,639</u>	

The Company's long-term debt portfolio consists of fixed-rate and variable-rate instruments and is managed to reduce the overall cost of borrowing and to mitigate fluctuations in interest rates. Among other things, interest rate fluctuations impact the market value of the Company's fixed-rate debt.

On February 10, 2021, the Company and certain of its subsidiaries entered into the sixth amended and restated senior unsecured revolving credit agreement (the "Unsecured Credit Agreement") and retained Bank of America, N.A. as the Administrative Agent for the lenders. The \$1,000,000 Unsecured Credit Agreement was to mature in February 2026. Borrowings under the Unsecured Credit Agreement bore interest at either the Eurocurrency rate, as defined in the Unsecured Credit Agreement, plus a margin of 1.175% to 1.775% or the base rate, as defined in the Unsecured Credit Agreement, plus a margin of 0.175% to 0.775%, depending on the Company's leverage ratio at the time of the borrowing. Multi-currency borrowings, pursuant to the Unsecured Credit Agreement, bore interest at their respective interbank offered rate (i.e. Euribor) or 0.00% (higher of the two rates) plus a margin of between 1.175% and 1.775%. The Unsecured Credit Agreement required the Company to maintain a Senior Debt Ratio of not more than 3.25 times. In addition, the Unsecured Credit Agreement required the Company to maintain a Total Debt Ratio of not more than 3.75 times for each fiscal quarter. A ratio of Consolidated EBITDA to Consolidated Cash Interest Expense, as defined, of not less than 4.25 times, was also required at the end of each fiscal quarter. The Unsecured Credit Agreement also contemplated the potential replacement of LIBOR (as defined below) with a successor financing rate, pursuant to the intent of the United Kingdom's Financial Conduct Authority to phase out use of

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

LIBOR (see discussion below). The Company paid fees and expenses of \$4,306 in conjunction with executing the Unsecured Credit Agreement. Such fees have been deferred within Other Assets on the Consolidated Balance Sheets and will be amortized into interest expense on the Consolidated Statements of Income through its maturity. Cash used to pay these fees was recorded through other financing activities on the Consolidated Statements of Cash Flows. The Company subsequently amended the Unsecured Credit Agreement on October 11, 2021 (the "LIBOR Transition Amendment"), defining certain applicable multi-currency borrowing rates that could be used as replacement rates for LIBOR, which was expected to be discontinued by reference rate reform. See Note 1.

On April 6, 2022, the Company entered into Amendment No. 1 to the Unsecured Credit Agreement ("Amendment No. 1"), which (i) replaced the LIBOR interest rate for U.S. dollar loans to a term Secured Overnight Financing Rate including a Secured Overnight Financing Rate adjustment (or "SOFR", as defined in the Unsecured Credit Agreement), (ii) added a daily SOFR option for U.S. dollar loans and a term SOFR option for U.S. dollar loans, and (iii) added the ability to borrow foreign swing line loans based on the Euro Short Term Rate ("€STR") (as defined) with the same interest spread as the interest spread for SOFR Loans (as defined) and Alternative Currency Loans (defined as loans denominated in Euro, Sterling, Swiss Francs or Yen). In addition, Amendment No. 1 lowered the interest rate spread on (i) SOFR Loans and Alternative Currency Loans to a range from 0.975% to 1.70%, depending on the leverage ratio (the "Leverage Ratio") of Consolidated Total Debt (as defined) to Consolidated EBITDA (as defined) as of the end of each fiscal quarter, and (ii) loans based on the Base Rate (as defined), to a range from 0.00% to 0.70%, depending on the Company's Leverage Ratio as of the end of each fiscal quarter. Amendment No. 1 also lowered the facility fee, which was required to be paid by the Company under the Unsecured Credit Agreement and was calculated on the full amount of the revolving facility, to a range from 0.15% to 0.30%, depending on the Company's Leverage Ratio at the end of each fiscal quarter. In April 2022, the Company paid fees and expenses of \$1,037 in conjunction with executing Amendment No. 1. Such fees have been deferred within Other Assets on the Consolidated Balance Sheets and will be amortized into interest expense on the Consolidated Statements of Income through its maturity. Cash used to pay these fees was recorded through other financing activities on the Consolidated Statements of Cash Flows.

The United Kingdom's Financial Conduct Authority, which regulates the London Interbank Offered Rate ("LIBOR"), announced its intent to phase out the use of LIBOR by December 31, 2021. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, a steering committee comprised of large U.S. financial institutions, identified SOFR as its preferred benchmark alternative to U.S. dollar LIBOR. Published by the Federal Reserve Bank of New York, SOFR represents a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is calculated based on directly observable U.S. Treasury-backed repurchase transactions. The Company's Unsecured Credit Agreement and corresponding interest rate swap were tied to LIBOR, with each maturing in February 2026. In March 2021, the ICE Benchmark Association announced that it would extend the publication of overnight, 1, 3, 6 and 12 month LIBOR rates until June 30, 2023, while ceasing publication of all other LIBOR rates including 1 week and 2 month rates. The Company's Unsecured Credit Agreement was further amended in October 2021 and in April 2022 to address the replacement of LIBOR, which, as a result of the Company's contract amendments as discussed above, did not have a material impact on our business, financial condition, results of operations or cash flow.

On June 5, 2023, the Company entered into the Agreement with MB Aerospace Group Holdings Limited, a Cayman Islands limited company. See Note 2. In connection with entry into the Agreement, on June 5, 2023, the Company entered into the Second Amendment (the "Second Amendment") to Note Purchase Agreement and Amendment No. 2 ("Amendment No. 2") to Unsecured Credit Agreement to facilitate the Transaction, as well as a commitment letter with Bank of America, N.A. and BofA Securities, Inc. (collectively, the "Commitment Parties"), pursuant to which the Commitment Parties agreed to provide, subject to the satisfaction of customary closing conditions contained therein, a \$1,000,000 backstop senior secured revolving credit facility and a \$700,000 senior secured 364-day bridge loan facility ("Bridge Loan Facility"). The Bridge Loan Facility was only intended to be drawn to the extent that the Company did not obtain alternative financing prior to the closing of the Transaction. The Company recorded fees of \$9,500 in conjunction with the Bridge Loan Facility and \$1,000,000 backstop senior secured revolving credit facility into interest expense on the Consolidated Statements of Income in the three months ended September 30, 2023. On the Acquisition Date, pursuant to the terms of the Agreement, the Company completed the Transaction for an aggregate purchase price of \$728,448, subject to customary and specified closing adjustments, as set forth in the Agreement. Concurrently, the Company entered into a new Credit Agreement (the "Credit Agreement") among the Company and certain of its subsidiaries, the issuing banks, lenders and other parties party thereto, and Bank of America, N.A., as administrative agent, as collateral agent and as swingline lender, which provides for senior secured financing of \$1,650,000, consisting of a term loan facility (the "Term Loan Facility") in an aggregate principal amount of \$650,000, at an original issue discount of \$4,875, and a revolving credit facility (the "Revolving Credit Facility" and, together with the Term Loan Facility, the "Senior Facilities") in an aggregate principal amount of up to \$1,000,000, including a letter of credit sub-facility of up to

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

\$50,000. Proceeds of the loans borrowed under the Senior Facilities on the Acquisition Date, net of a 0.75% original issue discount on the Term Loan Facility, were used to fund, in part, the transactions contemplated by the Agreement, including the consummation of the Transaction, the repayment in full of the 3.97% Senior Notes, and to pay related fees and expenses. As of the Acquisition Date, the Revolving Credit Facility had outstanding borrowings in an aggregate principal amount of approximately \$698,000. Proceeds of any loans under the Revolving Credit Facility borrowed after the Acquisition Date will be used for general corporate purposes. The Company paid fees and expenses of \$3,058 in conjunction with executing the Revolving Credit Facility. Such fees have been deferred within Other Assets on the Consolidated Balance Sheets and will be amortized into interest expense on the Consolidated Statements of Income through the maturity of the Credit Agreement with the previously recorded debt issuance costs. The Company incurred \$8,283 of debt issuance costs in conjunction with executing the Term Loan Facility. Such fees have been recorded as a direct deduction from the carrying amount of the Term Loan Facility and will be amortized into interest expense on the Consolidated Statements of Income through the maturity of the Term Loan Facility. Cash used to pay these fees was recorded through financing activities on the Consolidated Statements of Cash Flows. On August 31, 2023, in connection with the Credit Agreement and the closing of the Transaction, the Bridge Loan Facility was terminated.

The Senior Facilities are guaranteed by each of the Company's wholly owned domestic subsidiaries and are secured by substantially all assets of the Company and of each subsidiary guarantor, in each case subject to certain exceptions.

Borrowings under the Senior Facilities bear interest at a rate per annum equal to, at the Company's option, either Term SOFR (subject to a 0.00% floor) or an alternate base rate ("ABR"), in each case plus an applicable margin of (i) in the case of borrowings under the Term Loan Facility, 3.00% for Term SOFR loans and 2.00% for ABR loans and (ii) in the case of borrowings under the Revolving Credit Facility, initially, 2.375% for Term SOFR loans and 1.375% for ABR loans. The applicable margin for borrowings under the Revolving Credit Facility varies depending on the Company's total net leverage ratio. At December 31, 2023, the applicable margin for borrowings under the Revolving Credit Facility was 2.125%. The Company is also required to pay a commitment fee initially equal to 0.35% per annum to the lenders under the Revolving Credit Facility in respect of the unutilized commitments thereunder. The commitment fee under the Revolving Credit Facility varies depending on the Company's total net leverage ratio. At December 31, 2023, the commitment fee under the Revolving Credit Facility was 0.30%.

The Term Loan Facility matures on the seven-year anniversary of the Acquisition Date (August 31, 2030) and amortizes in equal quarterly installments (\$6,500 annually), starting with the first full fiscal quarter after the Acquisition Date, of 0.25% of the initial principal amount. The Revolving Credit Facility matures on the five-year anniversary of the Acquisition Date (August 31, 2028). In addition, the Company is required to prepay outstanding loans under the Term Loan Facility, subject to certain exceptions, with up to 50% of the Company's annual excess cash flow (as defined under the Credit Agreement) in excess of the greater of \$50,000 and 15.0% of Last Twelve Months ("LTM") Adjusted Consolidated EBITDA (as defined in the Credit Agreement) as of the applicable time, and with up to 100% of the net cash proceeds of certain recovery events and non-ordinary course asset sales (which percentages vary depending on the Company's first lien secured net leverage ratio).

The Company may generally prepay outstanding loans under the Senior Facilities at any time, without prepayment premium or penalty, subject to customary "breakage" costs with respect to Term SOFR loans. Prepayments of the Term Loan Facility in connection with certain "repricing events" resulting in a lower yield occurring at any time during the first six months after the Acquisition Date must be accompanied by a 1.00% prepayment premium.

The Revolving Credit Facility requires that the Company maintain a maximum Total Net Leverage Ratio, as defined in the Credit Agreement, initially of 5.50 to 1.00 as of the last day of each fiscal quarter for which financials have been (or were required to be) delivered, commencing with the first full fiscal quarter after the Acquisition Date, stepping down to 4.00 to 1.00 over time. For material acquisitions in certain circumstances, such ratio may be increased by up to 0.50 to 1.00. The actual ratio, as defined, was 3.64 at December 31, 2023. The Revolving Credit Facility also requires that the Company not permit the Interest Coverage Ratio as of the last day of any test period to be less than 3.00 to 1.00. The actual ratio, as defined, was 3.47 as of December 31, 2023. At December 31, 2023, the Company was in compliance with all applicable covenants.

The Senior Facilities contain certain affirmative and negative covenants that limit the ability of the Company, among other things and subject to certain significant exceptions, to incur debt or liens, make investments, enter into certain mergers, consolidations, asset sales and acquisitions, pay dividends and make other restricted payments and enter into transactions with affiliates. The Senior Facilities also contain certain events of default, including relating to a change of control. If an event of default occurs, the lenders under the Senior Facilities will be entitled to take various actions, including the acceleration of amounts due under the Senior Facilities.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Borrowings and availability under the Revolving Credit Facility were \$642,988 and \$357,012, respectively, at December 31, 2023. Borrowings and availability under the Unsecured Credit Facility were \$466,672 and \$533,328, respectively, at December 31, 2022, subject to covenants discussed above. The average interest rate on these borrowings was 6.76% and 3.67% on December 31, 2023 and 2022, respectively. The average interest rate excludes the impact of the Company's interest swap agreements. See Note 10. Borrowings included Euro-denominated borrowings of 296,500 Euros (\$327,988) at December 31, 2023 and 310,700 Euros (\$331,672) at December 31, 2022. The fair value of the borrowings is based on observable Level 2 inputs. The borrowings were valued using discounted cash flows based upon the Company's estimated interest costs for similar types of borrowings.

Borrowings under the Term Loan Facility were \$648,375 at December 31, 2023. The average interest rate on these borrowings was 8.46% on December 31, 2023. The average interest rate excludes the impact of the Company's interest swap agreements. See Note 10. The fair value of the borrowings is based on the quoted market price of the borrowings on December 31, 2023, which represents Level 1 observable inputs.

In addition, the Company has approximately \$83,000 in uncommitted short-term bank credit lines ("Credit Lines") and overdraft facilities. The Credit Lines are accessed locally and are available primarily within the U.S., Europe and Asia. The Credit Lines are subject to the applicable borrowing rates within each respective country and vary between jurisdictions (e.g. LIBOR, Euribor, etc.). The Company had no borrowings under the credit lines at December 31, 2023 and 2022. The Company had borrowed \$16 and \$8 under the overdraft facilities at December 31, 2023 and 2022, respectively. Repayments under the Credit Lines are due within one month after being borrowed. Repayments of the overdrafts are generally due within two days after being borrowed. The carrying amounts of the Credit Lines and overdrafts approximate fair value due to the short maturities of these financial instruments.

In October 2014, the Company entered into a Note Purchase Agreement ("Note Purchase Agreement"), among the Company and New York Life Insurance Company, New York Life Insurance and Annuity Corporation and New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Account, as purchasers, for the issuance of \$100,000 aggregate principal amount of the 3.97% Senior Notes due October 17, 2024 (the "Notes"). The Notes were senior unsecured obligations of the Company and paid interest semi-annually on April 17 and October 17 of each year at an annual rate of 3.97%. Subject to certain conditions, the Company could, at its option, prepay all or any part of the Notes in an amount equal to 100% of the principal amount so prepaid, plus any accrued and unpaid interest to the date of prepayment, plus the Make-Whole Amount, as defined in the Note Purchase Agreement, with respect to such principal amount being prepaid. The Notes, together with accrued and unpaid interest thereon, were repaid on August 31, 2023 in connection with the Transaction. There was no Make-Whole Amount. The fair value of the Notes at December 31, 2022 was determined using the U.S. Treasury yield and a long-term credit spread for similar types of borrowings, which represented Level 2 observable inputs.

The Company also has finance leases under which \$11,999 and \$4,404 was outstanding at December 31, 2023 and December 31, 2022, respectively. The fair value of finance leases is based on observable Level 2 inputs. These instruments were valued using discounted cash flows based upon the Company's estimated interest costs for similar types of borrowings.

Long-term debt and notes payable, excluding the unamortized deferred financing costs and original issue discount related to the Term Loan Facility, as of December 31, 2023 are payable as follows: \$10,884 in 2024, \$8,785 in 2025, \$8,401 in 2026, \$7,638 in 2027, \$650,157 in 2028 and \$617,513 thereafter.

In addition, the Company had undrawn letters of credit totaling \$5,786 at December 31, 2023.

Interest paid was \$59,238, \$13,535 and \$15,206 in 2023, 2022 and 2021, respectively. Interest capitalized was \$1,510, \$391 and \$282 in 2023, 2022 and 2021, respectively, and is being depreciated over the lives of the related fixed assets.

9. Business Reorganizations

In 2021, the Company authorized restructuring actions ("2021 Actions") at a number of locations. The 2021 Actions included a transfer of manufacturing capabilities to leverage existing capacity which is expected to reduce labor and infrastructure costs. The 2021 Actions resulted in pre-tax charges of \$2,869, primarily related to employee severance and termination benefits, in 2021 and net benefits of \$465 and \$269 in 2022 and 2023, respectively, have been recorded within Selling and Administrative Expenses in the accompanying Consolidated Statements of Income. The Company does not expect to incur any additional costs related to the 2021 Actions.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In July 2022, Company management commenced a systematic multi-phased initiative to significantly reduce costs and integrate the Company's operations, decreasing complexity and focusing on improved performance across Industrial. More specifically, at this time, the Company announced a restructuring program to further reduce costs within the Industrial segment and, more broadly, transform our businesses in response to macroeconomic disruptions. Additional actions were subsequently announced in October 2022, April 2023 (including Aerospace) and September 2023 (including Aerospace). Management continues to adjust its cost structures to align with market conditions.

The Company authorized restructuring actions ("2022 Actions") focused on the consolidation of two manufacturing sites and a number of branch offices and changes in infrastructure to eliminate certain roles across a number of locations in the Industrial segment businesses in July and October 2022. Resulting pre-tax charges of \$17,986 were recorded in 2022. Of the aggregate, \$11,880 related to employee termination costs, primarily employee severance and other termination benefits, which were substantially paid in cash by the end of 2023 and which are recorded within Selling and Administrative Expenses in the accompanying Consolidated Statements of Income. The remaining \$6,106 included \$3,186 of accelerated depreciation of assets and \$1,417 of pension curtailment losses and special termination benefits which are recorded in Cost of sales and Other expense (income), net, respectively, in the accompanying Consolidated Statements of Income.

During 2023, additional pre-tax charges of \$10,328, including \$3,802 of accelerated depreciation of assets, \$7,291 primarily related to site consolidation and transfer of work charges, were recorded within Cost of sales, \$1,229 primarily related to employee and other termination benefits and \$850 gain on sale of property, plant and equipment, were recorded within Selling and administrative expenses, and \$1,144 of pension curtailment and settlement gains recorded were included within Other income (expense), net, in the accompanying Consolidated Statements of Income.

A corresponding liability of \$538, per below, related to the employee termination costs remained and was included within accrued liabilities as of December 31, 2023. The Company does not expect any additional costs related to the 2022 actions to be significant.

The following table sets forth the change in the liability for the employee termination costs related to the 2022 Actions:

January 1, 2022	\$	—
Employee severance and other termination benefits		11,880
Payments		(980)
December 31, 2022	\$	10,900
Employee severance and other termination benefits		(357)
Payments		(10,005)
December 31, 2023	\$	538

In April 2023, the Company authorized restructuring actions ("April 2023 Actions") focused on manufacturing footprint optimization, including the consolidation of manufacturing sites and optimization of production. These actions include the geographic transfer of certain programs within both the Industrial and Aerospace segments and changes in infrastructure to drive improvements and efficiencies in business processes, including the elimination of certain roles across several locations. Resulting pre-tax charges of \$13,783 were recorded in 2023. Of the aggregate, \$10,791 related to employee termination costs, primarily employee severance and other termination benefits, which are expected to be paid in cash by the end of 2025, and \$657 primarily related to accelerated rent expenses and consulting fees, which were recorded within Selling and administrative Expenses, in the accompanying Consolidated Statements of Income. The remaining \$2,336 primarily related to site consolidation and transfer of work charges, were recorded within Cost of sales, in the accompanying Consolidated Statements of Income. Of the aggregate charges recorded, \$13,088 was reflected within the results of the Industrial segment and \$695 was reflected within the results of the Aerospace segment.

A corresponding liability of \$6,247, per below, related to the employee termination costs remained and was included within accrued liabilities as of December 31, 2023. The Company expects to incur additional costs beyond 2023 of approximately \$13,000 related to the April 2023 Actions, which are primarily related to transfer of work charges. Of the aggregate, approximately \$10,000 and \$3,000 relate to the Aerospace and Industrial segments, respectively. The April 2023 Actions are expected to be completed throughout multiple periods, with completion in 2025.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table sets forth the change in the liability for the employee termination benefits related to the April 2023 Actions:

January 1, 2023	\$ —
Employee severance and other termination benefits	10,492
Payments	(4,245)
December 31, 2023	<u>\$ 6,247</u>

In September 2023, the Company authorized restructuring actions ("September 2023 Actions") including organizational realignment within a Barnes Industrial business and within Barnes Aerospace following the MB Aerospace acquisition. Resulting pre-tax charges of \$7,878 were recorded in 2023 related to employee termination costs, primarily employee severance and other termination benefits, which are expected to be paid in cash by the end of 2025 and which were recorded within Selling and administrative expenses in the accompanying Consolidated Statements of Income. Of the aggregate charges recorded, \$5,056 was reflected within the results of the Industrial segment and \$2,821 was reflected within the results of the Aerospace segment. A corresponding liability of \$2,736, per below, related to the employee termination costs remained and was included within accrued liabilities as of December 31, 2023. The Company does not expect any additional costs related to the September 2023 Actions to be significant.

The following table sets forth the change in the liability for the employee termination benefits related to the September 2023 Actions:

January 1, 2023	\$ —
Employee severance and other termination benefits	7,878
Payments	(5,142)
December 31, 2023	<u>\$ 2,736</u>

10. Derivatives

The Company has manufacturing, service and sales facilities around the world and thus makes investments and conducts business transactions denominated in various currencies. The Company is also exposed to fluctuations in interest rates and commodity price changes. These financial exposures are monitored and managed by the Company as an integral part of its risk management program.

Derivative financial instruments have been used by the Company to hedge its exposure to fluctuations in interest rates. On April 28, 2017, the Company entered into an interest rate swap agreement (the "2017 Swap") with one bank which converted the interest on the first \$100,000 of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.92% plus the borrowing spread. The 2017 Swap expired on January 31, 2022. On March 24, 2021, the Company entered into a new interest rate swap agreement (the "2021 Swap") with this same bank that commenced on January 31, 2022 and that converted the interest on the first \$100,000 of the Company's one-month LIBOR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.17% plus the borrowing spread. Effective, April 30, 2022, the Company amended the 2021 Swap (the "Amended 2021 Swap"), such that the one-month SOFR-based borrowing rate replaced the one-month LIBOR-based borrowing rate. The Amended 2021 Swap, which will expire on January 30, 2026, converts the interest rate on the first \$100,000 of the Company's one-month SOFR-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 1.075% plus the borrowing spread. The execution of the Amended 2021 Swap did not result in a material impact on our business, financial condition, results of operations or cash flow. On July 19, 2023, the Company entered into an interest rate swap agreement (the "Euribor Swap") with one bank that commenced on July 31, 2023, which converts the interest on €150,000 of the Company's Euribor-based borrowings from a variable rate plus the borrowing spread to a fixed rate of 3.257% plus the borrowing spread. Under the Euribor Swap, €50,000 will expire on July 31, 2026, with the remaining balance of €100,000 expiring on July 31, 2028. On September 12, 2023, the Company entered into six additional interest rate swap agreement (the "2023 Swaps") with six different banks that commenced on September 29, 2023, which convert the interest on \$600,000 of the Company's one-month SOFR-based borrowings from a variable rate plus the borrowing spread to a blended fixed rate of 4.321% plus the borrowing spread. Under the 2023 Swaps, \$50,000 will expire on August 31, 2026, \$100,000 will expire on August 31, 2027, \$200,000 will expire on August 31, 2028, \$50,000 will expire on August 31, 2029 and the remaining balance of \$200,000 will expire on August 31, 2030. The execution of the interest rate swap

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

agreements in 2023 did not have a material impact on our business, financial condition, results of operations or cash flow. These interest rate swap agreements (the "Swaps") are accounted for as cash flow hedges.

The Company also uses derivative financial instruments to hedge its exposures to fluctuations in foreign currency exchange rates. The Company has various contracts outstanding which primarily hedge recognized assets or liabilities and anticipated transactions in various currencies including the Euro, British pound sterling, U.S. dollar, Canadian dollar, Japanese yen, Singapore dollar, Korean won, Swedish krona, Chinese renminbi, Mexican peso, Hong Kong dollar and Swiss franc. Certain foreign currency derivative instruments are treated as cash flow hedges of forecasted transactions. All foreign exchange contracts are due within two years.

The Company does not use derivatives for speculative or trading purposes or to manage commodity exposures.

The Company records the derivatives at fair value on the Consolidated Balance Sheets within Prepaid Expenses and Other Current Assets, Other Assets, Accrued Liabilities or Other Liabilities depending on their fair value and remaining contractual period. Changes in the fair market value of derivatives accounted for as cash flow hedges are recorded to accumulated other comprehensive income and reclassified to earnings in a manner that matches the earnings impact of the hedged transaction. Reclassifications to earnings for the Swaps are recorded through interest expense and reclassifications to earnings for foreign exchange contracts are recorded through net sales. Changes in the fair market value of the foreign exchange contracts that are not designated hedging instruments are recorded directly to earnings through Other expense (income), net.

The fair values of the Amended 2021 Swap were \$5,976 and \$8,535 as of December 31, 2023 and December 31, 2022, respectively, and were recorded in Other Assets in the Consolidated Balance Sheets for the periods. The fair values of the Euribor Swap were \$(5,485) and \$0 as of December 31, 2023 and December 31, 2022, respectively, and were recorded in Other Liabilities in the Consolidated Balance Sheets for the periods. The fair values of the 2023 Swaps were \$(19,984) and \$0 as of December 31, 2023 and December 31, 2022, respectively, and were recorded in Other Liabilities in the Consolidated Balance Sheets for the periods. The fair values of the Company's other derivatives were not material to the Company's Consolidated Balance Sheets as of December 31, 2023 or December 31, 2022. See Note 11. Other than the activity related to the Amended 2021 Swap, the Euribor Swap and the 2023 Swaps, the activity related to derivatives that have been designated hedging instruments was not material to the Company's Consolidated Financial Statements for the periods ended December 31, 2023, 2022 or 2021. The Company recognized gains (losses) of \$8,733, \$(12,937) and \$(2,494) related to the foreign exchange contracts that are not accounted for as hedging instruments within other expense (income), net, in the Consolidated Statements of Income for the periods ended December 31, 2023, 2022 and 2021, respectively. Such gains (losses) were substantially offset by net gains or losses recorded on the underlying hedged asset or liability (the "underlying"). Offsetting net gains or losses on the underlying are also recorded within Other expense (income), net.

The Company's policy for classifying cash flows from derivatives is to report the cash flows consistent with the underlying hedged item. Other financing cash flows during the years ended December 31, 2023, 2022 and 2021, as presented on the Consolidated Statements of Cash Flows, include \$(8,319), \$12,324 and \$766, respectively, of net cash (proceeds) payments related to the settlement of foreign currency hedges related to intercompany financing.

11. Fair Value Measurements

The provisions of the accounting standard for fair value define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This standard classifies the inputs used to measure fair value into the following hierarchy:

- | | |
|---------|---|
| Level 1 | Unadjusted quoted prices in active markets for identical assets or liabilities. |
| Level 2 | Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability. |
| Level 3 | Unobservable inputs for the asset or liability. |

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table provides the assets and liabilities reported at fair value and measured on a recurring basis as of December 31, 2023 and 2022:

	Total	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2023				
Asset derivatives	\$ 6,420	\$ —	\$ 6,420	\$ —
Liability derivatives	(25,885)	—	(25,885)	—
Bank acceptances	12,161	—	12,161	—
Rabbi trust assets	1,923	1,923	—	—
	<u>\$ (5,381)</u>	<u>\$ 1,923</u>	<u>\$ (7,304)</u>	<u>\$ —</u>
December 31, 2022				
Asset derivatives	\$ 8,856	\$ —	\$ 8,856	\$ —
Liability derivatives	(1,023)	—	(1,023)	—
Bank acceptances	13,260	—	13,260	—
Rabbi trust assets	2,104	2,104	—	—
	<u>\$ 23,197</u>	<u>\$ 2,104</u>	<u>\$ 21,093</u>	<u>\$ —</u>

The derivative contracts are valued using observable current market information as of the reporting date such as the prevailing SOFR-based interest rates and foreign currency spot and forward rates. Bank acceptances represent financial instruments accepted from certain China-based customers in lieu of cash paid on receivables, have maturities of one year or less and are guaranteed by banks. The carrying amounts of the bank acceptances, which are included within prepaid expenses and other current assets, approximate fair value due to their short maturities. The fair values of rabbi trust assets are based on quoted market prices from various financial exchanges. For disclosures of the fair values of the Company's pension plan assets, see Note 12.

12. Pension and Other Postretirement Benefits

The accounting standards related to employers' accounting for defined benefit pension and other postretirement plans requires the Company to recognize the funded status of its defined benefit postretirement plans as assets or liabilities in the accompanying consolidated balance sheets and to recognize changes in the funded status of the plans in comprehensive income.

The Company has various defined contribution plans, the largest of which is its Retirement Savings Plan. Most U.S. salaried and non-union hourly employees are eligible to participate in this plan. See Note 17 for further discussion of the Retirement Savings Plan. The Company also maintains various other defined contribution plans which cover certain other employees. Company contributions under certain of these plans are based on the performance of the business units and employee compensation. Contribution expense under these other defined contribution plans was \$3,030, \$4,870 and \$5,475 in 2023, 2022 and 2021, respectively.

Defined benefit pension plans in the U.S. cover a majority of the Company's U.S. employees at the Motion Control Solutions business of Industrial, certain former U.S. employees, including retirees, and a portion of employees at the Company's Corporate Office. Employees at certain international businesses within Industrial are also covered by defined benefit pension plans. Plan benefits for salaried and non-union hourly employees are based on years of service and average salary. Plans covering union hourly employees provide benefits based on years of service. The Company funds U.S. pension costs in accordance with the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). Non-U.S. defined benefit pension plans cover certain employees of certain international locations in Europe and Canada.

The Company provides other medical, dental and life insurance postretirement benefits for certain of its retired employees in the U.S. and Canada. It is the Company's practice to fund these benefits as incurred.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The accompanying balance sheets reflect the funded status of the Company's defined benefit pension plans at December 31, 2023 and 2022. Reconciliations of the obligations and funded status of the plans follow:

	2023			2022		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Benefit obligation, January 1	\$ 341,595	\$ 60,711	\$ 402,306	\$ 442,756	\$ 89,460	\$ 532,216
Service cost	1,646	943	2,589	3,869	1,820	5,689
Interest cost	17,343	2,072	19,415	13,144	964	14,108
Amendments	—	(2,553)	(2,553)	121	—	121
Actuarial loss (gain)	3,615	4,985	8,600	(94,516)	(23,739)	(118,255)
Benefits paid	(31,097)	(2,542)	(33,639)	(24,882)	(2,592)	(27,474)
Transfers in	—	1,989	1,989	—	2,694	2,694
Plan curtailments	(7,602)	(437)	(8,039)	708	—	708
Plan settlements	—	(12,799)	(12,799)	—	(4,527)	(4,527)
Special termination benefits	—	—	—	395	—	395
Participant contributions	—	906	906	—	1,034	1,034
Foreign exchange rate changes	—	4,101	4,101	—	(4,403)	(4,403)
Benefit obligation, December 31	<u>325,500</u>	<u>57,376</u>	<u>382,876</u>	<u>341,595</u>	<u>60,711</u>	<u>402,306</u>
Fair value of plan assets, January 1	304,881	70,039	374,920	422,563	87,366	509,929
Actual return on plan assets	34,046	4,207	38,253	(95,573)	(10,275)	(105,848)
Company contributions	8,605	1,119	9,724	2,773	1,321	4,094
Participant contributions	—	906	906	—	1,034	1,034
Benefits paid	(31,097)	(2,542)	(33,639)	(24,882)	(2,592)	(27,474)
Plan settlements	—	(12,799)	(12,799)	—	(4,527)	(4,527)
Transfers in	—	1,989	1,989	—	2,694	2,694
Foreign exchange rate changes	—	4,212	4,212	—	(4,982)	(4,982)
Fair value of plan assets, December 31	<u>316,435</u>	<u>67,131</u>	<u>383,566</u>	<u>304,881</u>	<u>70,039</u>	<u>374,920</u>
(Underfunded) Overfunded status, December 31	<u>\$ (9,065)</u>	<u>\$ 9,755</u>	<u>\$ 690</u>	<u>\$ (36,714)</u>	<u>\$ 9,328</u>	<u>\$ (27,386)</u>

Benefit obligations decreased in 2023 primarily due to a plan curtailment resulting from the Company electing to freeze the benefits associated with one of its U.S.-based defined benefit pension plans in February 2023 and an increase in the payment of benefits to plan participants, partially offset by higher interest costs throughout 2023 and actuarial losses as compared with actuarial gains in the comparable 2022 period, resulting primarily from decreases in the discount rate as of December 31, 2023.

Benefit obligations decreased in 2022 primarily due to actuarial gains, resulting largely from increases in the discount rate, and the payment of benefits to plan participants, partially offset by interest costs.

Projected benefit obligations related to pension plans with benefit obligations in excess of plan assets follow:

	2023			2022		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Projected benefit obligation	\$ 34,578	\$ 31,514	\$ 66,092	\$ 268,811	\$ 34,820	\$ 303,631
Fair value of plan assets	4,301	28,701	33,002	226,866	33,856	260,722

Information related to pension plans with accumulated benefit obligations in excess of plan assets follows:

	2023			2022		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Accumulated benefit obligation	\$ 34,744	\$ 31,241	\$ 65,985	\$ 46,267	\$ 34,762	\$ 81,029
Fair value of plan assets	4,301	28,701	33,002	9,813	33,856	43,669

The accumulated benefit obligation for all defined benefit pension plans was \$382,769 and \$395,663 at December 31, 2023 and 2022, respectively.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Amounts related to pensions recognized in the accompanying balance sheets consist of:

	2023			2022		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Other assets	\$ 21,212	\$ 12,568	\$ 33,780	\$ 5,231	\$ 10,292	\$ 15,523
Accrued liabilities	5,809	—	5,809	8,369	—	8,369
Accrued retirement benefits	24,468	2,813	27,281	33,576	964	34,540
Accumulated other non-owner changes to equity, net	(98,436)	(4,811)	(103,247)	(108,265)	(2,636)	(110,901)

Amounts related to pensions recognized in accumulated other non-owner changes to equity, net of tax, at December 31, 2023 and 2022, respectively, consist of:

	2023			2022		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Net actuarial loss	\$ (97,325)	\$ (6,596)	\$ (103,921)	\$ (106,887)	\$ (2,131)	\$ (109,018)
Prior service costs	(1,111)	1,785	674	(1,378)	(505)	(1,883)
	<u>\$ (98,436)</u>	<u>\$ (4,811)</u>	<u>\$ (103,247)</u>	<u>\$ (108,265)</u>	<u>\$ (2,636)</u>	<u>\$ (110,901)</u>

The accompanying balance sheets reflect the underfunded status of the Company's other postretirement benefit plans at December 31, 2023 and 2022. Reconciliations of the obligations and underfunded status of the plans follow:

	2023	2022
Benefit obligation, January 1	\$ 21,964	\$ 29,839
Service cost	39	77
Interest cost	1,122	808
Actuarial gain	(411)	(6,375)
Benefits paid	(2,390)	(2,597)
Participant contributions	98	141
Foreign exchange rate changes	19	71
Benefit obligation, December 31	20,441	21,964
Fair value of plan assets, January 1	—	—
Company contributions	2,292	2,456
Participant contributions	98	141
Benefits paid	(2,390)	(2,597)
Fair value of plan assets, December 31	—	—
Underfunded status, December 31	<u>\$ 20,441</u>	<u>\$ 21,964</u>

Benefit obligations decreased in 2023 and 2022 primarily due to the payment of benefits to plan participants, partially offset by interest costs.

Amounts related to other postretirement benefits recognized in the accompanying balance sheets consist of:

	2023	2022
Accrued liabilities	\$ 2,315	\$ 2,630
Accrued retirement benefits	18,126	19,334
Accumulated other non-owner changes to equity, net	2,471	2,261

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Amounts related to other postretirement benefits recognized in accumulated other non-owner changes to equity, net of tax, at December 31, 2023 and 2022 consist of:

	2023	2022
Net actuarial gain	\$ 2,471	\$ 2,269
Prior service loss	—	(8)
	<u>\$ 2,471</u>	<u>\$ 2,261</u>

The sources of changes in accumulated other non-owner changes to equity, net, during 2023 were:

	Pension	Other Postretirement Benefits
Prior service cost	\$ 2,169	\$ —
Net gain	5,022	310
Amortization of prior service costs	229	8
Amortization of actuarial loss (gain)	511	(114)
Foreign exchange rate changes	(277)	6
	<u>\$ 7,654</u>	<u>\$ 210</u>

Weighted-average assumptions used to determine benefit obligations as of December 31, are:

	2023	2022
U.S. plans:		
Discount rate	5.45 %	5.50 %
Increase in compensation	— %	3.05 %
Non-U.S. plans:		
Discount rate	3.00 %	3.60 %
Increase in compensation	2.56 %	2.76 %
Interest crediting rate	2.27 %	2.01 %

The investment strategy of the plans is to generate a consistent total investment return sufficient to pay present and future plan benefits to retirees, while minimizing the long-term cost to the Company. Target allocations for asset categories are used to earn a reasonable rate of return, provide required liquidity and minimize the risk of large losses. Targets may be adjusted, as necessary, to reflect trends and developments within the overall investment environment. The weighted-average target investment allocations by asset category were as follows during 2023: 65% in equity securities and 35% in fixed income securities, including cash.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The fair values of the Company's pension plan assets at December 31, 2023 and 2022 by asset category are as follows:

Asset Category	Total	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2023				
Cash and short-term investments	\$ 4,472	\$ 4,472	\$ —	\$ —
Equity securities:				
U.S. large-cap	36,614	—	36,614	—
U.S. mid-cap	14,344	14,344	—	—
U.S. small-cap	14,661	14,661	—	—
International equities	107,176	—	107,176	—
Global equity	41,810	41,810	—	—
Fixed income securities:				
U.S. bond funds	104,791	—	104,791	—
International bonds	57,569	—	57,569	—
Other	2,129	—	—	2,129
	<u>\$ 383,566</u>	<u>\$ 75,287</u>	<u>\$ 306,150</u>	<u>\$ 2,129</u>
December 31, 2022				
Cash and short-term investments	3,542	3,542	—	—
Equity securities:				
U.S. large-cap	35,734	—	35,734	—
U.S. mid-cap	14,205	14,205	—	—
U.S. small-cap	14,622	14,622	—	—
International equities	104,377	—	104,377	—
Global equity	42,154	42,154	—	—
Fixed income securities:				
U.S. bond funds	97,170	—	97,170	—
International bonds	61,295	—	61,295	—
Other	1,821	—	—	1,821
	<u>\$ 374,920</u>	<u>\$ 74,523</u>	<u>\$ 298,576</u>	<u>\$ 1,821</u>

The fair values of the Level 1 assets are based on quoted market prices from various financial exchanges. The fair values of the Level 2 assets are based primarily on quoted prices in active markets for similar assets or liabilities. The Level 2 assets are comprised primarily of commingled equity funds and fixed income securities. Commingled equity funds are valued at their net asset values based on quoted market prices of the underlying assets. Fixed income securities are valued using a market approach which considers observable market data for the underlying asset or securities. The Level 3 assets relate to a defined benefit plan within the Molding Solutions business. These pension assets are fully insured and have been estimated based on accrued pension rights and actuarial rates. These pension assets are limited to fulfilling the Company's pension obligations.

The Company expects to contribute approximately \$7,143 to the pension plans in 2024. No contributions to the U.S. Qualified pension plans, specifically, are required, and the Company does not currently plan to make any discretionary contributions to such plans in 2024.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following are the estimated future net benefit payments, which include future service, over the next 10 years:

	Pensions	Other Postretirement Benefits
2024	\$ 32,143	\$ 2,315
2025	32,315	2,163
2026	32,589	2,018
2027	28,431	1,894
2028	28,791	1,793
Years 2029-2033	135,554	7,632
Total	<u>\$ 289,823</u>	<u>\$ 17,815</u>

Pension and other postretirement benefit costs consist of the following:

	Pensions			Other Postretirement Benefits		
	2023	2022	2021	2023	2022	2021
Service cost	\$ 2,589	\$ 5,689	\$ 6,547	\$ 39	\$ 77	\$ 103
Interest cost	19,415	14,108	12,749	1,122	808	819
Expected return on plan assets	(30,056)	(28,944)	(27,858)	—	—	—
Amortization of prior service cost	354	387	332	10	36	29
Recognized losses/(gains)	1,643	12,710	16,006	(146)	(2)	258
Curtailment (gain)/loss	(668)	1,158	(133)	—	—	—
Settlement (gain)/loss	(656)	(605)	205	—	—	—
Special termination benefits	—	395	—	—	—	—
Net periodic benefit cost	<u>\$ (7,379)</u>	<u>\$ 4,898</u>	<u>\$ 7,848</u>	<u>\$ 1,025</u>	<u>\$ 919</u>	<u>\$ 1,209</u>

The curtailment gain of \$668 and a majority of the settlement gain of \$656 in 2023 as well as the curtailment loss of \$1,158 and a portion of the special termination benefits of \$395 in 2022 relate to restructuring and workforce reduction actions that were taken during the periods. See Note 9.

The components of net periodic benefit cost other than service cost are included in Other Expense (Income) on the Consolidated Statements of Income.

Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31 are:

	2023	2022	2021
U.S. plans:			
Discount rate	5.50 %	2.95 %	2.65 %
Long-term rate of return	7.75 %	7.25 %	7.25 %
Increase in compensation	3.05 %	3.03 %	2.56 %
Non-U.S. plans:			
Discount rate	3.60 %	1.17 %	0.83 %
Long-term rate of return	3.99 %	2.33 %	1.96 %
Increase in compensation	2.76 %	2.77 %	2.75 %
Interest crediting rate	2.01 %	1.34 %	1.34 %

The expected long-term rate of return is based on consideration of projected rates of return and the historical rates of return of published indices that reflect the plans' target asset allocation.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The Company's accumulated postretirement benefit obligations, exclusive of pensions, take into account certain cost-sharing provisions. The annual rate of increase in the cost of covered benefits (i.e., health care cost trend rate) is assumed to be 6.98% and 7.52% at December 31, 2023 and 2022, respectively, decreasing gradually to a rate of 4.00% by December 31, 2046.

The Company actively contributes to a Swedish pension plan that supplements the Swedish social insurance system. The pension plan guarantees employees a pension based on a percentage of their salary and represents a multi-employer pension plan, however the pension plan was not significant in any year presented. This pension plan is not underfunded.

13. Stock-Based Compensation

The Company measures the cost of all share-based payments, including stock options, at fair value on the grant date and recognizes this cost in the results of operations, net of expected forfeitures. With the exception of the performance-vested stock options granted in July 2022 under the CEO's Stock Option Award ("Performance-Vested Stock Options"), the fair value of stock options is estimated on the grant date using the Black-Scholes option-pricing model based on certain assumptions. The fair value of the Performance-Vested Stock Options is estimated on the grant date using the Monte Carlo valuation method. The fair values of service- and performance-based stock awards are estimated based on the fair market value of the Company's stock price on the grant date. The fair value of market-based performance share awards is estimated on the grant date using the Monte Carlo valuation method.

Refer to Note 17 for a description of the Company's stock-based compensation plans and their general terms. As of December 31, 2023, incentives have been awarded in the form of performance share awards and restricted stock unit awards (collectively, "Rights") and stock options. The Company has elected to use the straight-line method to recognize compensation costs. Stock options and awards typically vest over a period ranging from six months to five years. Performance-Vested Stock Options cliff-vest in five years, subject to continued service and the achievement of compound annual growth rates ("CAGRs") in the price of the Company's common shares above the option exercise price as of the fifth anniversary of the grant date, with 0% vesting at a CAGR of less than 5%, 33.3% vesting at a CAGR of 5%, 66.6% vesting at a CAGR of 7% and 100% vesting at a CAGR of 9% or greater. The maximum term of stock option awards is 10 years. Upon exercise of a stock option or upon vesting of Rights, shares may be issued from treasury shares held by the Company or from authorized shares.

During 2023, 2022 and 2021, the Company recognized \$10,201, \$12,804, and \$11,470, respectively, of stock-based compensation cost and \$1,770, \$2,444, and \$2,263, respectively, of related tax benefits in the accompanying consolidated statements of income. Additionally, the Company recognized excess tax expense in the tax provision of \$(941), \$(1,257) and \$(523) in 2023, 2022 and 2021, respectively. The Company has realized all available tax benefits related to deductions from excess stock awards exercised or Rights vested. At December 31, 2023, the Company had \$24,795 of unrecognized compensation costs related to unvested awards which are expected to be recognized over a weighted average period of 2.51 years.

The following table summarizes information about the Company's stock option awards during 2023:

	Number of Shares	Weighted-Average Exercise Price
Outstanding, January 1, 2023	1,852,603	\$ 37.79
Granted	120,195	44.94
Exercised	—	—
Forfeited	(67,605)	54.23
Outstanding, December 31, 2023	<u>1,905,193</u>	<u>37.66</u>

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes information about stock options outstanding at December 31, 2023:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number of Shares	Average Remaining Life (Years)	Average Exercise Price	Number of Shares	Average Exercise Price
\$30.32	1,183,406	8.53	\$ 30.32	—	\$ —
\$30.71 to \$37.13	128,164	2.15	32.14	123,255	32.09
\$44.94 to \$47.04	256,177	6.25	45.79	126,718	46.61
\$51.55 to \$59.46	178,663	4.42	55.87	166,328	56.12
\$60.72 to \$66.10	158,783	3.92	63.17	158,783	63.17

The Company received cash proceeds from the exercise of stock options of \$0, \$150 and \$1,083 in 2023, 2022 and 2021, respectively. The total intrinsic value (the amount by which the stock price exceeded the exercise price of the option on the date of exercise) of the stock options exercised during 2023, 2022 and 2021 was \$0, \$55 and \$439, respectively.

The weighted-average grant date fair value of stock options (excluding performance-vested stock options) granted in 2023, 2022 and 2021 was \$17.64, \$15.63, and \$17.30, respectively. The fair value of each stock option grant on the date of grant was estimated using the Black-Scholes option-pricing model based on the following weighted average assumptions:

	2023	2022	2021
Risk-free interest rate	3.85 %	1.98 %	0.55 %
Expected life (years)	5.5	5.5	5.5
Expected volatility	41.6 %	40.1 %	40.0 %
Expected dividend yield	1.20 %	1.22 %	1.23 %

The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time that options are expected to remain outstanding. Assumptions of expected volatility of the Company's common stock and expected dividend yield are estimates of future volatility and dividend yields based on historical trends.

The grant date fair value of the performance-vested stock options granted in 2022 was \$8.45 and was estimated using the Monte Carlo valuation method since it includes a market condition. The assumptions used to determine the fair value of the 2022 award include a 3.46% risk-free interest rate and a 34.5% expected volatility rate. Compensation expense for the performance-vested stock options is fixed at the date of grant and will not be adjusted in future periods based upon the achievement of the stock price CAGR performance goal.

The following table summarizes information about stock options outstanding that are expected to vest and stock options outstanding that are exercisable at December 31, 2023:

Options Outstanding, Expected to Vest				Options Outstanding, Exercisable			
Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Term (Years)	Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Term (Years)
1,836,720	\$ 37.66	\$ 2,845	7.03	575,084	\$ 50.82	\$ 182	3.47

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes information about the Company's Rights during 2023:

	Service Based Rights		Service and Performance Based Rights		Service and Market Based Rights	
	Number of Units	Weighted-Average Grant Date Fair Value	Number of Units	Weighted-Average Grant Date Fair Value	Number of Units	Weighted-Average Grant Date Fair Value
Outstanding, January 1, 2023	302,239	\$ 40.62	140,361	\$ 53.76	70,204	\$ 93.58
Granted	302,440	40.53	87,343	44.94	43,682	76.61
Forfeited	(73,535)	42.56	(20,607)	47.07	(10,307)	81.66
Additional Earned	—	—	(46,102)	64.65	(23,072)	111.39
Issued	(109,163)	47.92	—	—	—	—
Outstanding, December 31, 2023	<u>421,981</u>		<u>160,995</u>		<u>80,507</u>	

The Company granted 302,440 restricted stock unit awards and 131,025 performance share awards in 2023. All of the restricted stock unit awards vest upon meeting certain service conditions. "Additional Earned" reflects performance share awards earned above or failed to earn (below) target that have been issued. The performance share awards are part of the long-term Performance Share Award Program (the "Awards Program"), which is designed to assess the long-term Company performance relative to the performance of companies included in the Russell 2000 Index or to pre-established goals. The performance goals are independent of each other and based on equally weighted metrics. For awards granted in 2023, 2022 and 2021, the metrics included the Company's total shareholder return ("TSR"), operating income before depreciation and amortization growth ("EBITDA growth") and return on invested capital ("ROIC"). The TSR and EBITDA growth metrics are designed to assess the long-term Company performance relative to the performance of companies included in the Russell 2000 Index over a three-year period. ROIC is designed to assess the Company's performance compared to pre-established goals over a three-year performance period. The participants can earn from zero to 250% of the target award and the award includes a forfeitable right to dividend equivalents, which are not included in the aggregate target award numbers. Compensation expense for the awards is recognized over the three-year service period based upon the value determined under the intrinsic value method for EBITDA growth and ROIC portions of the award and the Monte Carlo simulation valuation model for the TSR portion of the award since it contains a market condition. The assumptions used to determine the weighted-average fair values of the market based portion of the 2023 awards include a 4.11% risk-free interest rate and a 43.40% expected volatility rate.

Compensation expense for the TSR portion of the awards is fixed at the date of grant and will not be adjusted in future periods based upon the achievement of the TSR performance goal. Compensation expense for the EBITDA growth and the ROIC portions of the awards is recorded each period based upon a probability assessment of achieving the goals with a final adjustment at the end of the service period based upon the actual achievement of those performance goals.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

14. Income Taxes

The components of Income from continuing operations before income taxes and Income taxes follow:

	2023	2022	2021
Income from continuing operations before income taxes:			
U.S.	\$ (61,688)	\$ (53,088)	\$ (28,832)
International	94,952	91,273	156,649
Income from continuing operations before income taxes	<u>\$ 33,264</u>	<u>\$ 38,185</u>	<u>\$ 127,817</u>
Income tax provision:			
Current:			
U.S. – federal	\$ 535	\$ 276	\$ 4,733
U.S. – state	972	778	1,009
International	21,875	29,374	38,609
	<u>23,382</u>	<u>30,428</u>	<u>44,351</u>
Deferred:			
U.S. – federal	\$ (407)	\$ (790)	\$ (6,800)
U.S. – state	(58)	(579)	(1,051)
International	(5,649)	(4,353)	(8,556)
	<u>(6,114)</u>	<u>(5,722)</u>	<u>(16,407)</u>
Income taxes	<u>\$ 17,268</u>	<u>\$ 24,706</u>	<u>\$ 27,944</u>

In 2021, the Company had a deferred tax liability for foreign withholding taxes of \$185 on \$3,501 of undistributed earnings on its international subsidiaries earned before 2017. In 2022, the Company removed the deferred tax liability as any related foreign withholding tax has been paid and all other undistributed earnings have been considered indefinitely reinvested. All remaining earnings are considered indefinitely reinvested as defined per the indefinite reversal criterion within the accounting guidance for income taxes. If the earnings were distributed in the form of dividends, the Company would not be subject to U.S. Tax but could be subject to foreign income and withholding taxes. Determination of the amount of this unrecognized deferred income tax liability is not practicable. The Company did not repatriate any dividends to the U.S. from accumulated foreign earnings in 2023. On December 31, 2023, the Company's unremitted foreign earnings were approximately \$1,835,000.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Deferred income tax assets and liabilities at December 31 consist of the tax effects of temporary differences related to the following:

	2023	2022
Deferred tax assets:		
Pension	\$ 3,578	\$ 11,505
Tax loss carryforwards	24,277	10,970
Inventory valuation	10,363	8,015
Other postretirement/postemployment costs	5,073	7,715
Accrued compensation	11,631	7,430
Goodwill	6,313	8,981
Lease obligation	13,052	8,493
Other	55,248	17,310
Valuation allowance	(41,625)	(6,456)
Total deferred tax assets	<u>87,910</u>	<u>73,963</u>
Deferred tax liabilities:		
Depreciation and amortization	(130,227)	(81,409)
Goodwill	(41,313)	(9,899)
Swedish tax incentive	(7,105)	(7,196)
Right of use liability	(14,355)	(8,456)
Other	(5,223)	(11,537)
Total deferred tax liabilities	<u>(198,223)</u>	<u>(118,497)</u>
Net deferred tax liabilities	<u>\$ (110,313)</u>	<u>\$ (44,534)</u>

Amounts related to deferred taxes in the balance sheets as of December 31, 2023 and 2022 are presented as follows:

	2023	2022
Non-current deferred tax assets	\$ 10,295	\$ 18,028
Non-current deferred tax liabilities	(120,608)	(62,562)
Net deferred tax liabilities	<u>\$ (110,313)</u>	<u>\$ (44,534)</u>

The standards related to accounting for income taxes require that deferred tax assets be reduced by a valuation allowance if, based on all available evidence, it is more likely than not that the deferred tax asset will not be realized. Available evidence includes the reversal of existing taxable temporary differences, future taxable income exclusive of temporary differences, taxable income in carryback years and tax planning strategies.

The realization of these assets is dependent in part on the amount and timing of future taxable income in the jurisdictions where deferred tax assets reside. As of December 31, 2023, the Company has gross tax loss carryforwards of \$85,716; \$47,918 which relates to U.S tax loss carryforwards which have carryforward periods up to 20 years for federal purposes and ranging from one to 20 years for state purposes; \$2,599 of which relates to international tax loss carryforwards with carryforward periods ranging from one to 20 years; and \$35,198 of which relates to international tax loss carryforwards with unlimited carryforward periods. In addition, the Company has tax credit carryforwards of \$417 with remaining carryforward periods ranging from one to five years. Currently the Company has a valuation allowance of \$13,353 and \$366 related to loss carryforwards and credit carryforwards, respectively, as it believes it is more likely than not that future income will not be earned to timely utilize certain net operating losses or credit carryforwards which have expiration dates. As the ultimate realization of the remaining net deferred tax assets is dependent upon future taxable income, if such future taxable income is not earned and it becomes necessary to recognize a valuation allowance, it could result in a material increase in the Company's tax expense which could have a material adverse effect on the Company's financial condition and results of operations.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In the second quarter of 2021, the Italian tax authorities released tax guidance related to the application of tax basis realignment rules for intangible property ("Realignment") which provides Italian taxpayers with the opportunity to step up the basis of goodwill and intangibles to their fair market value and amortize the step up over 18 years for tax purposes in exchange for paying a 3% tax on the step up, payable over a three years period. The Company opted to elect the Realignment in June 2021 and accordingly recorded a tax payable of \$3,008 and a long-term tax payable of \$6,016. The Company made its first required installment payment of \$3,008 during the third quarter of 2021, reducing the long-term tax payable accordingly. The Company also recorded a deferred tax asset of \$83,921 related to the Realignment. Accounting guidance requires that when a deferred tax asset is realigned for tax purposes, a corresponding revaluation reserve also be recorded. Under Italian tax rules, any dividends paid out of this revaluation reserve are subject to tax at a 24% rate. Accordingly, the Company recorded a deferred tax liability of \$72,190 related to the potential 24% tax due on any dividends, paid out of the revaluation reserve. The deferred tax asset and liability balances have been presented on a net basis on the Consolidated Balance Sheets. The Company also recorded a one-time \$2,707 benefit to the provision related to this election and related accounting. In December 2021, the Italian government increased the amortization period to 50 years but then reversed the period back to 10 years for the intangible component of the step up in 2022; however the change has no impact on the accounting for the transaction as reported above.

In October 2021, the Organisation for Economic Co-operation and Development ("OECD") announced an Inclusive Framework on Base Erosion and Profit Shifting including Pillar Two Model Rules defining the global minimum tax, which calls for the taxation of large multinational corporations at a minimum rate of 15%. Subsequently multiple sets of administrative guidance have been issued. Many non-US tax jurisdictions have either recently enacted legislation to adopt certain components of the Pillar Two Model Rules beginning in 2024 with the adoption of additional components in later years or announced their plans to enact legislation in future years. We are continuing to evaluate the impacts of enacted legislation and pending legislation to enact Pillar Two Model Rules in the non-US tax jurisdictions we operate in.

In August 2022, the U.S. government enacted tax legislation commonly referred to as the Inflation Reduction Act of 2022 ("IRA") into law. The IRA will impose a 1% excise tax on the fair market value of certain stock repurchased by a public traded company after December 31, 2022 and restored and modified certain tax-related energy incentives. The Company does not anticipate a material impact on our business, financial condition, results of operations or cash flow as a result of this change.

Management is required to assess whether its valuation allowance analysis is affected by various components of tax law including future GILTI inclusions, changes to the deductibility of executive compensation and interest expense and changes to the NOL and FTC rules. The total valuation allowance as of December 31, 2023 was \$41,625. Of this balance, \$28,513 was recorded for carryforward items from the MB Aerospace acquisition, which primarily relate to disallowed interest and operating losses from this business with the remaining balance primarily consisting of \$6,758 for allowances related to U.S. interest expense that is disallowed under Section 163(j) and \$4,047 for net operating losses.

A reconciliation of the U.S. federal statutory income tax rate to the consolidated effective income tax rate from continuing operations follows:

	2023	2022	2021
U.S. federal statutory income tax rate	21.0 %	21.0 %	21.0 %
Foreign operations taxed at different rates	13.9	0.6	0.1
Foreign losses without tax benefit	20.7	7.5	1.9
Italian goodwill & intangible realignment	—	—	(2.1)
Goodwill impairment	—	37.5	—
GILTI	9.8	12.0	2.3
Capitalized Transaction Costs	8.2	—	—
Tax holidays	(45.8)	(30.2)	(2.5)
Stock awards excess tax expense	2.8	3.3	0.4
Charge for change in valuation allowances	20.4	9.3	—
Tax Reserves and audits including MAP Approval	2.3	2.8	(1.5)
Adjustment to prior year's tax return	(3.8)	(2.2)	1.0
Foreign tax rate change	(0.1)	—	0.4
Other	2.5	3.1	0.9
Consolidated effective income tax rate	51.9 %	64.7 %	21.9 %

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In 2019 and 2017, the Company recorded additional income taxes resulting from audits at certain subsidiaries in Germany. The Company filed applications with the Internal Revenue Service ("IRS") under the Mutual Aid Process ("MAP") to allow for offsetting positions within the US tax filings for the Germany-related adjustments. In 2021, the MAP applications were approved by the IRS. The Company recognized a tax benefit of \$1,967 in 2021 to reflect the tax benefit realized as a result of the IRS approval.

Payment of the Transition Tax assessed is required over an eight-year period. The short-term portion of the Transition Tax payable, \$17,371, has been included within Accrued Liabilities on the Consolidated Balance Sheet as of December 31, 2023. The long-term portion of the assessment, \$21,714, is included as a Long-term tax liability on the Consolidated Balance Sheet and is payable in 2025.

The Aerospace and Industrial segments have a number of multi-year tax holidays in Singapore, China and Malaysia. Tax benefits of \$15,233 (\$0.30 per diluted share), \$11,528 (\$0.23 per diluted share) and \$3,219 (\$0.06 per diluted share) were realized in 2023, 2022 and 2021, respectively. These holidays are subject to the Company meeting certain commitments in the respective jurisdictions. Aerospace was granted an income tax holiday for operations recently established in Malaysia. This holiday commenced effective November 2020 (retroactively) and remains effective for a period of ten years. The China tax holiday was granted in 2021 and the holiday runs for a three year period which ended December 31, 2023. It is anticipated that the Company will re-apply for the holiday in 2024. The Aerospace business was granted additional tax holidays in Singapore under the Pioneer program in 2022. This holiday provides reduced tax rates for certain Aerospace programs manufactured at the Singapore location and will run through December 2025.

Income taxes paid globally, net of refunds, were \$39,916, \$49,639, and \$58,324 in 2023, 2022 and 2021, respectively.

As of December 31, 2023, 2022 and 2021, the total amount of unrecognized tax benefits recorded in the consolidated balance sheet was \$10,993, \$8,250, and \$8,671, respectively, which, if recognized, would have reduced the effective tax rate in prior years, with the exception of amounts related to acquisitions. A reconciliation of the unrecognized tax benefits for 2023, 2022 and 2021 follows:

	2023	2022	2021
Balance at January 1	\$ 8,250	\$ 8,671	\$ 9,156
Increase (decrease) in unrecognized tax benefits due to:			
Tax positions taken during prior periods	—	—	—
Tax positions taken during the current period	637	873	637
Acquisition	2,950	—	—
Settlements	—	—	(70)
Lapse of the applicable statute of limitations	(790)	(1,171)	(1,218)
Foreign currency translation	(54)	(123)	166
Balance at December 31	<u>\$ 10,993</u>	<u>\$ 8,250</u>	<u>\$ 8,671</u>

The Company recognizes interest and penalties, if any, related to unrecognized tax benefits in income tax expense. The Company recognized interest and penalties as a component of income taxes of \$(388), \$(264), and \$(93) in the years 2023, 2022 and 2021, respectively. The liability for unrecognized tax benefits includes gross accrued interest and penalties of \$2,930, \$3,318, and \$3,582 at December 31, 2023, 2022 and 2021, respectively.

The Company or its subsidiaries file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. In the normal course of business, the Company is subject to examination by various taxing authorities, including the IRS in the U.S. and the taxing authorities in other major jurisdictions including China, Germany, Singapore, Sweden and Switzerland. With a few exceptions, tax years remaining open to examination in significant foreign jurisdictions include tax years 2018 forward and for the U.S. include tax years 2016 and forward. The Company is undergoing a tax audit by the IRS for the 2016, 2017 and 2018 tax year. The Company is under a German tax audit for the Seeger business group for the years 2018 through 2019 and the first month of 2020. Pursuant to the sale and purchase agreement, the Company agreed to certain indemnifications for taxes assessed for audit periods related to the Seeger business. Refer to Note 2. The Company is also under German tax audits for the FOBOHA and Manner business groups for years 2019 and 2020 and under audit in Canada for tax years 2019 through 2021.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

15. Common Stock

There were no shares of common stock issued from treasury in 2023, 2022 or 2021.

In 2023, 2022 and 2021, the Company acquired 0 shares, 200,000 shares and 100,000 shares, respectively, of the Company's common stock at a cost of \$0, \$6,721 and \$5,229, respectively. These amounts exclude shares reacquired to pay for the related income tax upon issuance of shares in accordance with the terms of the Company's stockholder-approved equity compensation plans and the equity rights granted under those plans ("Reacquired Shares"). These Reacquired Shares were placed in treasury.

In 2023, 2022 and 2021, 119,142 shares, 137,911 shares and 172,261 shares of common stock, respectively, were issued from authorized shares for the exercise of stock options, various other incentive awards and purchases by the Company's Employee Stock Purchase Plan.

16. Preferred Stock

At December 31, 2023 and 2022, the Company had 3,000,000 shares of preferred stock authorized, none of which were outstanding.

17. Stock Plans

Most U.S. salaried and non-union hourly employees are eligible to participate in the Company's 401(k) plan (the "Retirement Savings Plan"). The Retirement Savings Plan provides for the investment of employer and employee contributions in various investment alternatives including the Company's common stock, at the employee's direction. The Company contributes an amount equal to 50% of employee contributions up to 6% of eligible compensation. The Company expenses all contributions made to the Retirement Savings Plan. Effective January 1, 2013, the Retirement Savings Plan was amended to provide certain salaried employees hired on or after January 1, 2013 with an additional annual retirement contribution of 4% of eligible earnings. The Company recognized expense of \$6,768, \$4,164 and \$3,970 in 2023, 2022 and 2021, respectively. As of December 31, 2023, the Retirement Savings Plan held 730,464 shares of the Company's common stock.

The Company has an Employee Stock Purchase Plan ("ESPP") under which eligible employees may elect to have up to the lesser of \$25 or 10% of base compensation deducted from their payroll checks for the purchase of the Company's common stock at 95% of the average market value on the date of purchase. The maximum number of shares which may be purchased under the ESPP is 4,550,000. The number of shares purchased under the ESPP was 9,979, 11,101 and 7,667 in 2023, 2022 and 2021, respectively. The Company received cash proceeds from the purchase of these shares of \$353, \$363 and \$344 in 2023, 2022 and 2021, respectively. As of December 31, 2023, 222,041 additional shares may be purchased.

The 2014 Barnes Group Stock and Incentive Award Plan (the "2014 Plan") was approved on May 9, 2014 by the Company's stockholders. The 2014 Plan permits the issuance of incentive awards, stock option grants and stock appreciation rights to eligible participants to purchase up to 6,913,978 shares of common stock. Of this amount as of December 31, 2022, there were 2,223,889 shares available for future grants under the 2014 Plan. On May 5, 2023, the 2014 Plan was merged with and into the 2023 Plan.

The 2023 Barnes Group Stock and Incentive Award Plan (the "2023 Plan") was approved on May 5, 2023 by the Company's stockholders. The 2023 Plan permits the issuance of incentive awards, stock option grants and stock appreciation rights to eligible participants to purchase up to 4,223,889 shares of common stock. The amount includes shares available for purchase under the 2014 Plan which was merged into the 2023 Plan. The 2023 Plan allows for stock options and stock appreciation rights to be issued at a ratio of 1:1 and other types of incentive awards at a ratio of 1.9:1 from the shares available for future grants. As of December 31, 2023, there were 3,717,399 shares available for future grants under the 2023 Plan, inclusive of Shares Reacquired and shares made available through 2023 forfeitures. As of December 31, 2023, there were 2,548,590 shares of common stock outstanding to be issued upon the exercise of stock options and the vesting of Rights.

Rights under the 2023 Plan entitle the holder to receive, without payment, one share of the Company's common stock after the expiration of the vesting period. Certain of these Rights are also subject to the satisfaction of established performance goals. Additionally, holders of certain Rights are credited with dividend equivalents, and holders of certain restricted stock units

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

are paid dividend equivalents in cash when dividends are paid to other stockholders. All Rights have a vesting period of up to five years.

During the year ended December 31, 2022, the Company granted a one-time Performance-Vested Stock Option award. Although the Performance-Vested Stock Options were not granted under the 2014 Plan, they will be administered in accordance with the terms and conditions of the 2014 Plan (other than Section 4 thereof). This stock option award was approved on July 14, 2022 by the Compensation and Management Development Committee of the Board of Directors of Barnes without shareholder approval pursuant to New York Stock Exchange Rule 303A.08.

Under the Non-Employee Director Deferred Stock Plan, as amended, each non-employee director who joined the Board of Directors prior to December 15, 2005 was granted the right to receive 12,000 shares of the Company's common stock upon retirement. In 2023, 2022 and 2021, \$16, \$18 and \$19, respectively, of dividend equivalents were paid in cash related to these shares. There was no compensation cost related to this plan in 2023, 2022 or 2021. There are 24,000 shares reserved for issuance under this plan.

Total maximum shares reserved for issuance under all stock plans aggregated 6,512,031 at December 31, 2023.

18. Weighted Average Shares Outstanding

Net income per common share is computed in accordance with accounting standards related to earnings per share. Basic earnings per share is calculated using the weighted-average number of common shares outstanding during the year. Share-based payment awards that entitle their holders to receive nonforfeitable dividends before vesting should be considered participating securities and, as such, should be included in the calculation of basic earnings per share. The Company's restricted stock unit awards which contain nonforfeitable rights to dividends are considered participating securities. Diluted earnings per share reflects the assumed exercise and conversion of all dilutive securities. Shares held by the Retirement Savings Plan are considered outstanding for both basic and diluted earnings per share. There are no adjustments to net income for purposes of computing income available to common stockholders for the years ended December 31, 2023, 2022 or 2021. A reconciliation of the weighted-average number of common shares outstanding used in the calculation of basic and diluted earnings per share follows:

	Weighted-Average Common Shares Outstanding		
	2023	2022	2021
Basic	51,052,963	50,962,447	50,926,374
Dilutive effect of:			
Stock options	86,658	20,910	74,798
Performance share awards	66,267	100,810	77,891
Diluted	51,205,888	51,084,167	51,079,063

The calculation of weighted-average diluted shares outstanding excludes all anti-dilutive shares. During 2023, 2022 and 2021, the Company excluded 1,089,449, 1,352,548 and 533,177 stock awards, respectively, from the calculation of diluted weighted-average shares outstanding as the stock awards were considered anti-dilutive.

19. Leases

The Company maintains leases of certain manufacturing, distribution and assembly facilities, office space, land, machinery and equipment. Leases generally have remaining terms of one year to five years. Leases with an initial term of twelve months or less are not recorded on the Consolidated Balance Sheets. The Company recognizes lease expense for minimum lease payments on a straight line basis over the term of the lease. Certain leases include options to renew or terminate. Renewal options are exercisable per the discretion of the Company and vary based on the nature of each lease, with renewal periods generally ranging from one year to five years. The term of the lease includes renewal periods only if the Company is reasonably certain that it will exercise the renewal option. When determining if a renewal option is reasonably certain of being exercised, the Company considers several factors, including but not limited to, the cost of moving to another location, the cost of disruption to operations, whether the purpose or location of the leased asset is unique and the contractual terms associated with extending the lease.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Certain leases provide the option to purchase the leased property and are therefore evaluated for finance lease consideration. Right-of-use ("ROU") assets and lease liabilities related to finance leases were not material as of December 31, 2023 and 2022. ROU assets arising from finance leases are included in property, plant and equipment, net, and the corresponding liabilities are included in Long Term Debt - Current and Long-Term Debt on the Consolidated Balance Sheet. The depreciable life of leased assets are limited by the expected term of the lease, unless there is a transfer of title or purchase option and the Company believes it is reasonably certain of exercise.

Lease agreements generally do not contain any material residual value guarantees or materially restrictive covenants and the Company does not sublease to any third parties. The Company does not have any material leases that have been signed but not commenced.

Contracts are evaluated at inception to determine whether they contain a lease, where the Company obtains the right to control an identified asset. The following table sets forth the classification of ROU assets and lease liabilities on the Consolidated Balance Sheets:

Operating Leases	Classification	December 31, 2023	December 31, 2022
Leased Assets			
ROU assets	Other assets	\$ 46,780	\$ 27,054
Lease Liabilities			
Current lease liability	Accrued liabilities	10,894	10,209
Long-term lease liability	Other liabilities	36,197	17,128
		<u>\$ 47,091</u>	<u>\$ 27,337</u>

Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. New operating lease ROU assets represent the lease liability, plus any lease payments made at or before the commencement date, less any lease incentives received. The Company's real estate leases, which are comprised primarily of manufacturing, distribution and assembly facilities, represent a majority of the lease liability. A significant portion of lease payments are fixed, although an immaterial portion of payments are variable in nature. Variable lease payments vary based on changes in facts and circumstances related to the use of the ROU and are recorded as incurred. The Company utilizes its incremental borrowing rate by lease term to calculate the present value of our future lease payments if an implicit rate is not specified. The discount rate is risk-adjusted on a secured basis and is the rate at which the Company would be charged to borrow the amount equal to the lease payments over a similar term.

The Company has lease agreements with lease and non-lease components, which are accounted for as a single lease component. The Company applies a portfolio approach to effectively account for the operating lease ROU assets and liabilities.

Operating lease costs for the twelve months ended December 31, 2023, 2022 and 2021 were \$19,276, \$17,099 and \$17,687, respectively, and were included within Cost of Sales and Selling and Administrative expenses. Operating lease costs include short-term and variable leases costs, which were not material during the period.

Future minimum lease payments under non-cancellable leases as of December 31, 2023 were as follows:

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	Operating Leases
2024	\$ 12,874
2025	8,990
2026	6,666
2027	4,960
2028	4,272
After 2028	23,145
Total lease payments	\$ 60,907
Less: Interest	13,816
Present value of lease payments	\$ 47,091

	December 31,		
<u>Lease Term and Discount Rate</u>	2023	2022	2021
Weighted-average remaining lease term (years)			
Operating leases	7.8	5.8	5.8
Weighted-average discount rates			
Operating leases	5.67 %	3.38 %	3.01 %

	Year Ended December 31,		
<u>Other Information</u>	2023	2022	2021
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	\$ 14,440	\$ 13,596	\$ 14,586
Leased assets obtained in exchange for new operating lease liabilities	\$ 32,353	\$ 11,498	\$ 15,287

20. Changes in Accumulated Other Comprehensive Income by Component

The following tables set forth the changes in accumulated other comprehensive income by component for the years ended December 31, 2023 and December 31, 2022:

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	Gains and Losses on Cash Flow Hedges	Pension and Other Postretirement Benefit Items	Foreign Currency Items	Total
January 1, 2023	\$ 5,941	\$ (108,640)	\$ (117,801)	\$ (220,500)
Other comprehensive (loss) income before reclassifications to consolidated statements of income	(16,637)	7,230	37,952	28,545
Amounts reclassified from accumulated other comprehensive income to the consolidated statements of income	(3,808)	634	—	(3,174)
Net current-period other comprehensive (loss) income	(20,445)	7,864	37,952	25,371
December 31, 2023	<u>\$ (14,504)</u>	<u>\$ (100,776)</u>	<u>\$ (79,849)</u>	<u>\$ (195,129)</u>

	Gains and Losses on Cash Flow Hedges	Pension and Other Postretirement Benefit Items	Foreign Currency Items	Total
January 1, 2022	\$ 160	\$ (112,307)	\$ (39,691)	\$ (151,838)
Other comprehensive income (loss) before reclassifications to consolidated statements of income	6,155	(6,212)	(78,110)	(78,167)
Amounts reclassified from accumulated other comprehensive income to the consolidated statements of income	(374)	9,879	—	9,505
Net current-period other comprehensive income (loss)	5,781	3,667	(78,110)	(68,662)
December 31, 2022	<u>\$ 5,941</u>	<u>\$ (108,640)</u>	<u>\$ (117,801)</u>	<u>\$ (220,500)</u>

The following table sets forth the reclassifications out of accumulated other comprehensive income by component for the years ended December 31, 2023 and December 31, 2022:

Details about Accumulated Other Comprehensive Income Components	Amount Reclassified from Accumulated Other Comprehensive Income		Affected Line Item in the Consolidated Statements of Income
	2023	2022	
Gains and losses on cash flow hedges			
Interest rate contracts	\$ 5,825	\$ 647	Interest expense
Foreign exchange contracts	(788)	(152)	Net sales
	5,037	495	Total before tax
	(1,229)	(121)	Tax expense
	3,808	374	Net of tax
Pension and other postretirement benefit items			
Amortization of prior-service costs	\$ (364)	\$ (423)	(A)
Amortization of actuarial losses	(1,497)	(12,708)	(A)
Curtailment gain/(loss)	241	(450)	(A)
Settlement gain	656	605	(A)
	(964)	(12,976)	Total before tax
	330	3,097	Tax (expense) benefit
	(634)	(9,879)	Net of tax
Total reclassifications in the period	<u>\$ 3,174</u>	<u>\$ (9,505)</u>	

(A) These accumulated other comprehensive income components are included within the computation of net periodic Pension and Other Postretirement Benefits cost. See Note 12.

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

21. Information on Business Segments

The Company is organized based upon the nature of its products and services and reports under two global business segments: Aerospace and Industrial. Segment information is consistent with how management reviews the businesses, makes investing and resource allocation decisions and assesses operating performance. The Company has not aggregated operating segments for purposes of identifying these two reportable segments.

Aerospace is a global manufacturer of complex fabricated and precision machined components and assemblies for turbine engines, nacelles and structures for both commercial and defense-related aircraft. The Aerospace Aftermarket business provides aircraft engine component MRO services, including services performed under our Component Repair Programs (“CRPs”), for many of the world’s major turbine engine manufacturers, commercial airlines and the defense market. The Aerospace Aftermarket activities also include the manufacture and delivery of aerospace aftermarket spare parts, including through revenue sharing programs (“RSPs”) under which the Company receives an exclusive right to supply designated aftermarket parts over the life of specific aircraft engine programs.

Aerospace’s OEM business offers a comprehensive range of in-house manufacturing solutions and capabilities, including components and assemblies. The applications for these components primarily include engines, airframes and nacelles. Aerospace OEM competes with a large number of fabrication and machining companies. Our competitive advantage is based mainly on value derived from quality, concurrent engineering and technical capability, product breadth, solutions-providing new product introduction, timeliness, service, price and intellectual property. Aerospace’s fabrication and machining operations, with facilities in Connecticut, Malaysia, Michigan, Ohio, Utah, Poland, the United Kingdom and Singapore, produce critical engine, nacelle and airframe components through technologically advanced manufacturing processes.

The Aerospace Aftermarket business supplements jet engine OEMs’ maintenance, repair and overhaul capabilities, and competes with the service centers of major commercial airlines and other independent service companies for the repair and overhaul of turbine engine components. The manufacture and supply of aerospace aftermarket spare parts, including those related to the RSPs, are dependent upon the reliable and timely delivery of high-quality components. Aerospace’s Aftermarket facilities, located in Connecticut, Ohio, Singapore and Taiwan, specialize in the repair and refurbishment of highly engineered components and assemblies such as cases, rotating life limited parts, rotating air seals, turbine shrouds, vanes and honeycomb air seals. Aerospace Aftermarket's facility in Malaysia is focused on the supply of spare parts.

The Company evaluates the performance of its reportable segments based on the operating profit of the respective businesses, which includes net sales, cost of sales, selling and administrative expenses and certain components of other expense (income), net, as well as the allocation of corporate overhead expenses.

Industrial is a global provider of highly-engineered, high-quality precision components, products and systems for critical applications serving a diverse customer base in end-markets such as industrial equipment, automation, personal care, packaging, electronics, mobility and medical devices. Focused on innovative custom solutions, Industrial participates in the design phase of components and assemblies whereby customers receive the benefits of application and systems engineering, new product development, testing and evaluation, and the manufacturing of final products. Products are sold primarily through its direct sales force and global distribution channels. Industrial's Molding Solutions business designs and manufactures customized hot runner systems, advanced mold cavity sensors and process control systems, and precision high cavitation mold assemblies - collectively, the enabling technologies for many complex injection molding applications. The Automation business designs and develops robotic grippers, advanced end-of-arm tooling systems, sensors and other automation components for intelligent robotic handling solutions and industrial automation applications. The Motion Control Solutions business provides innovative cost-effective force and motion control solutions for a wide range of metal forming and other industrial markets and manufactures and supplies precision mechanical products used in mobility and industrial applications, including mechanical springs, and high-precision punched and fine-blanked components. See Note 23 as the Company entered into a Share Purchase and Asset Agreement to sell its Associated Spring™ and Hänggi™ businesses, both within the Motion Control Solutions business, in January 2024.

Industrial competes with a broad base of large and small companies engaged in the manufacture and sale of engineered products, precision molds, hot runner systems, robotic handling solutions and precision components. Industrial competes on the basis of quality, service, reliability of supply, engineering and technical capability, geographic reach, product breadth, innovation, design, timeliness and price. Industrial has a global presence in multiple countries, with manufacturing, distribution

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

and assembly operations in the United States, China, Germany, Italy, Sweden and Switzerland, among others. Industrial also has sales and service operations in the United States, China/Hong Kong, Germany, Italy and Switzerland, among others.

Sales between the business segments and between the geographic areas in which the businesses operate are accounted for on the same basis as sales to unaffiliated customers. Additionally, revenues are attributed to countries based on the location of facilities.

The following table (in millions) sets forth summarized financial information by reportable business segment:

		Aerospace ^(A)	Industrial	Other	Total Company
Sales					
	2023	\$ 608.1	\$ 842.8	\$ —	\$ 1,450.9
	2022	429.2	832.7	—	1,261.9
	2021	362.4	896.5	—	1,258.8
Operating profit (loss) ^(B)					
	2023	\$ 53.0	\$ 36.0	\$ —	\$ 89.0
	2022	76.2	(19.1)	—	57.1
	2021	52.3	97.7	—	150.0
Assets					
	2023	\$ 1,465.3	\$ 1,685.3	\$ 157.4	\$ 3,308.0
	2022	590.6	1,680.4	142.7	2,413.7
	2021	583.0	1,827.9	165.9	2,576.8
Depreciation and amortization					
	2023	\$ 61.6	\$ 53.7	\$ 0.5	\$ 115.8
	2022	37.3	54.1	0.7	92.2
	2021	32.8	57.5	0.9	91.1
Capital expenditures					
	2023	\$ 32.8	\$ 22.4	\$ 0.6	\$ 55.7
	2022	14.9	19.2	1.0	35.1
	2021	12.7	21.3	0.2	34.1

(A) The results of MB Aerospace, from the acquisition on August 31, 2023, have been included within the Company's Consolidated Financial Statements in the Aerospace segment for the period ended December 31, 2023.

(B) Industrial operating losses in the period ended December 31, 2022 include a \$68,194 goodwill impairment charge. Assets at Industrial were impacted by a corresponding amount given the reduction to the goodwill balance. See Note 6.

Notes:

One customer, General Electric, accounted for 21%, 16% and 17% of the Company's total revenues in 2023, 2022 and 2021, respectively.

"Other" assets include corporate-controlled assets, the majority of which are cash and cash equivalents and deferred tax assets.

A reconciliation of the total reportable segments' operating profit to income before income taxes follows (in millions):

	2023	2022	2021
Operating profit	\$ 89.0	\$ 57.1	\$ 150.0
Interest expense	58.2	14.6	16.2
Other expense (income), net	(2.4)	4.3	6.0
Income before income taxes	<u>\$ 33.3</u>	<u>\$ 38.2</u>	<u>\$ 127.8</u>

BARNES GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table (in millions) summarizes total net sales and long-lived assets of the Company by geographic area:

		Domestic	International	Other	Total Company
Sales					
	2023	\$ 599.9	\$ 935.1	\$ (84.2)	\$ 1,450.9
	2022	545.2	806.8	(90.2)	1,261.9
	2021	516.4	829.4	(87.0)	1,258.8
Long-lived assets					
	2023	\$ 557.9	\$ 1,833.1	\$ —	\$ 2,391.0
	2022	360.2	1,303.2	—	1,663.4
	2021	380.7	1,493.9	—	1,874.6

Notes: Germany, with sales of \$225.8 million, \$204.3 million and \$243.1 million in 2023, 2022 and 2021, respectively, and Singapore, with sales of \$183.3 million, \$144.9 million and \$136.8 million in 2023, 2022 and 2021, respectively, represent the only international countries with revenues in excess of 10% of the Company's total revenues in those years. "Other" revenues represent the elimination of inter-company sales between geographic locations, of which approximately 66%, 78% and 78% were sales from international locations to domestic locations in 2023, 2022 and 2021, respectively.

Germany, with long-lived assets of \$405.8 million, \$388.2 million and \$428.9 million as of December 31, 2023, 2022 and 2021, respectively, Singapore, with long-lived assets of \$196.7 million and \$201.6 million as of December 31, 2022 and 2021, respectively, Italy, with long-lived assets of \$303.9 million, \$300.4 million and \$398.2 million as of December 31, 2023, 2022 and 2021, respectively and Taiwan, with long-lived assets of \$321.6 million as of December 31, 2023, represent the international countries with long-lived assets that exceeded 10% of the Company's total long-lived assets in those years.

22. Commitments and Contingencies

Product Warranties

The Company provides product warranties in connection with the sale of certain products. From time to time, the Company is subject to customer claims with respect to product warranties. The Company accrues its estimated exposure for warranty claims at the time of sale based upon the length of the warranty period, historical experience and other related information known to the Company. Liabilities related to product warranties and extended warranties were not material as of December 31, 2023 or 2022.

In July 2021, a customer asserted breach of contract and contractual warranty claims regarding a part manufactured by the Company. While the Company disputes the asserted claims, the Company and the customer are in discussions seeking to resolve the matter. No litigation or other proceeding has been initiated. While it is currently not possible to determine the ultimate outcome of this matter, the Company intends to vigorously defend its position and believes that the ultimate resolution will not have a material adverse effect on the Company's consolidated financial position or liquidity, but could be material to the consolidated results of operations of any one period.

Litigation

The Company is subject to litigation from time to time in the ordinary course of business and various other suits, proceedings and claims are pending involving the Company and its subsidiaries. The Company records a loss contingency liability when a loss is considered probable and the amount can be reasonably estimated. While it is not possible to determine the ultimate disposition of each of these proceedings and whether they will be resolved consistent with the Company's beliefs, the Company expects that the outcome of such proceedings, individually or in the aggregate, will not have a material adverse effect on financial condition or results of operations.

Supplier Finance Programs

The Company participates in a Supplier Finance Program (the "Program") under which it agrees to pay a third-party finance provider the stated amount of confirmed invoices from participating suppliers based on the original invoice due date. Suppliers, at their sole discretion, may elect to finance confirmed invoices prior to their scheduled due date at a discounted price with the Company's third-party finance provider. Outstanding obligations related to the Program were not material as of December 31, 2023 and 2022. These obligations were recorded within Accounts Payable on the Consolidated Balance Sheets. The Company does not have any assets nor any other forms of guarantees pledged as security to the third-party finance provider as part of the Program.

23. Subsequent Event

On January 11, 2024, the Company entered into a Share Purchase and Asset Agreement ("SPA") with one Equity Partners to sell its Associated Spring™ and Hänggi™ businesses for \$175,000, inclusive of a \$15,000 promissory note due in 24 months, subject to certain adjustments. These businesses operate within the Motion Control Solutions business. Expected net cash proceeds will be used to reduce debt incurred from the strategic acquisition of MB Aerospace.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Barnes Group Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Barnes Group Inc. and its subsidiaries (the “Company”) as of December 31, 2023 and 2022, and the related consolidated statements of income, of comprehensive (loss) income, of changes in stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2023, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended December 31, 2023 appearing under Item 15(c) (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

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

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

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

As described in Management’s Report on Internal Control over Financial Reporting, management has excluded MB Aerospace Holdings Inc. (“MB Aerospace”) from its assessment of internal control over financial reporting as of December 31, 2023 because it was acquired by the Company in a purchase business combination during 2023. We have also excluded MB Aerospace from our audit of internal control over financial reporting. MB Aerospace is a wholly-owned subsidiary whose total assets and total net sales excluded from management’s assessment and our audit of internal control over financial reporting represent 7% and 8%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2023.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and

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

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

Critical Audit Matters

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

Goodwill Impairment Assessment - Automation Reporting Unit

As described in Notes 1 and 6 to the consolidated financial statements, the Company's consolidated goodwill balance was \$1,183.6 million as of December 31, 2023, of which, as disclosed by management, \$198.8 million is related to the Automation reporting unit. Goodwill is subject to impairment testing on an annual basis, in the second quarter, or more frequently if an event or change in circumstances indicates that the fair value of a reporting unit has been reduced below its carrying value. Management utilizes the option to first assess qualitative factors to determine whether it is necessary to perform the Step 1 quantitative goodwill impairment test. If management determines that the Step 1 quantitative impairment test is required, management estimates the fair value of the reporting unit using the income approach. Inherent in management's development of cash flow projections are assumptions and estimates, including those related to forecasted revenue growth rates, forecasted operating margins, and the weighted average cost of capital.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Automation reporting unit is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the Automation reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to forecasted revenue growth rates, forecasted operating margins, and the weighted average cost of capital; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the Automation reporting unit. These procedures also included, among others (i) testing management's process for developing the fair value estimate of the Automation reporting unit; (ii) evaluating the appropriateness of the income approach used by management; (iii) testing the completeness and accuracy of underlying data used in the income approach; and (iv) evaluating the reasonableness of the significant assumptions used by management related to forecasted revenue growth rates, forecasted operating margins, and the weighted average cost of capital. Evaluating management's assumptions related to forecasted revenue growth rates and forecasted operating margins involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the Automation reporting unit; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the income approach and (ii) the reasonableness of the weighted average cost of capital assumption.

Acquisition of MB Aerospace Holdings Inc. - Valuation of Customer Relationships and Developed Technology

As described in Notes 2 and 6 to the consolidated financial statements, on August 31, 2023, the Company completed its acquisition of MB Aerospace for an aggregate purchase price of \$728.4 million. Management recorded intangible assets of \$320 million, which includes \$249 million of customer relationships and \$55 million of developed technology. Fair value was determined by management utilizing the multi-period excess earnings method for customer relationships and the relief from royalty method for developed technology. Management's cash flow projections for the intangible assets acquired included estimates and judgments related to forecasted revenue growth rates, gross margins, customer attrition rate, and discount rates for customer relationships and forecasted revenue growth rates, royalty rate, and discount rates for developed technology.

The principal considerations for our determination that performing procedures relating to the valuation of customer relationships and developed technology acquired in the acquisition of MB Aerospace is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the customer relationships and developed technology acquired; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to forecasted revenue growth rates, gross margins, customer attrition rate, and discount rates for customer relationships and forecasted revenue growth rates, royalty rate, and discount rates for developed technology; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management's valuation of the customer relationships and developed technology acquired. These procedures also included, among others (i) reading the purchase agreement; (ii) testing management's process for developing the fair value estimate of the customer relationships and developed technology acquired; (iii) evaluating the appropriateness of the multi-period excess earnings and relief from royalty methods used by management; (iv) testing the completeness and accuracy of underlying data used in the multi-period excess earnings and relief from royalty methods; and (v) evaluating the reasonableness of the significant assumptions used by management related to forecasted revenue growth rates, gross margins, customer attrition rate, and discount rates for customer relationships and forecasted revenue growth rates, royalty rate, and discount rates for developed technology. Evaluating management's assumptions related to forecasted revenue growth rates and gross margins for customer relationships and forecasted revenue growth rates for developed technology involved considering (i) the current and past performance of the MB Aerospace business; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the multi-period excess earnings and relief from royalty methods and (ii) the reasonableness of the customer attrition rate and discount rates assumptions for customer relationships and the royalty rate and discount rates assumptions for developed technology.

/s/ PricewaterhouseCoopers LLP
Hartford, Connecticut
February 26, 2024

We have served as the Company's auditor since 1994.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Management, including the Company's President and Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures as of the end of the period covered by this report. We completed the acquisition of MB Aerospace on August 31, 2023. In accordance with applicable SEC guidance, the scope of our assessment of the effectiveness of disclosure controls and procedures does not include MB Aerospace as it was not practical to do so given the date of acquisition. MB Aerospace's total assets excluded from the scope of our assessment represent approximately 7% of the related consolidated assets as of December 31, 2023. MB Aerospace's total net sales excluded from the scope of our assessment represent approximately 8% of consolidated total net sales for twelve months ended December 31, 2023. Based upon, and as of the date of, that evaluation, the President and Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective, in all material respects, and designed to provide reasonable assurance that the information required to be disclosed in the reports the Company files and submits under the Securities Exchange Act of 1934 (the "Exchange Act"), as amended, is (i) recorded, processed, summarized and reported as and when required and (ii) is accumulated and communicated to the Company's management, including our President and Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). We completed the acquisition of MB Aerospace on August 31, 2023. In accordance with applicable SEC guidance, the scope of our assessment of the effectiveness of internal control over financial reporting does not include MB Aerospace as it was not practical to do so given the date of acquisition. MB Aerospace's total assets excluded from the scope of our assessment represent approximately 7% of the related consolidated assets as of December 31, 2023. MB Aerospace's total net sales excluded from the scope of our assessment represent approximately 8% of consolidated total net sales for twelve months ended December 31, 2023. Under the supervision and with the participation of management, including the President and Chief Executive Officer and Chief Financial Officer, the Company conducted an assessment of the effectiveness of its internal control over financial reporting based on the framework in the "Internal Control - Integrated Framework 2013" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the assessment under this framework, management concluded that the Company's internal control over financial reporting was effective, in all material respects, as of December 31, 2023.

PricewaterhouseCoopers LLP, the independent registered public accounting firm that audited the financial statements included in this Annual Report, has issued an attestation report on the Company's internal control over financial reporting as of December 31, 2023, which appears within Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There has been no change to our internal control over financial reporting during the Company's fourth fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

During the three months ended December 31, 2023, no director or officer of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not Applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information with respect to our directors, corporate governance and other information required by this Item 10 may be found in the “Governance” and “Stock Ownership” sections of our definitive proxy statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders to be held on May 3, 2024 (the “Proxy Statement”). Such information is incorporated herein by reference.

EXECUTIVE OFFICERS

The Company’s executive officers as of the date of this Annual Report are as follows:

<u>Name</u>	<u>Position</u>	<u>Age as of December 31, 2023</u>
Thomas J. Hook	President and Chief Executive Officer	61
Dawn N. Edwards	Senior Vice President, Human Resources	55
Lukas Hovorka	Senior Vice President, Corporate Development	51
Jay B. Knoll	Senior Vice President, General Counsel and Secretary	60
Ian M. Reason	Senior Vice President, Barnes, and President, Barnes Aerospace	59
Julie K. Streich	Senior Vice President, Finance and Chief Financial Officer	53

Each officer holds office until his or her successor is appointed and qualified or otherwise as provided in the Company’s Amended and Restated By-Laws. No family relationships exist among the executive officers of the Company. Of the Company’s executive officers, Ms. Edwards and Mr. Hovorka have been employed by the Company or its subsidiaries in an executive or managerial capacity for at least the past five years. There are no arrangements or understandings with any other person under which any executive officer was selected as an officer.

Mr. Hook was appointed President and Chief Executive Officer effective July 14, 2022 and has been a member of the Barnes Board of Directors since 2016. From February 2021 to July 2022, Mr. Hook served as Chief Executive Officer of SaniSure, Inc. and as a director of SaniSure, Inc. from December 2019 to July 2022. Prior to that, he was the Chief Executive Officer of Q Holding Company from September 2017 to January 2021. Prior to that, he was the Chief Executive Officer of Integer (formerly, Greatbatch) from August 2006 to May 2017, after having served as its Chief Operating Officer from September 2004 to August 2006. Earlier in his career, Mr. Hook held various positions of increasing responsibility with CTI Molecular Imaging, General Electric Medical Systems, Van Owen Group Acquisition Company, and Duracell, Inc. Mr. Hook is currently a director of NeuroNexus Inc.

Ms. Edwards was appointed Senior Vice President, Human Resources effective August 2009. From December 2008 until August 2009, she served as Vice President of Human Resources - Global Operations. From September 1998 until December 2008, Ms. Edwards served as Group Director, Human Resources for Barnes Aerospace, Associated Spring and Barnes Industrial. Ms. Edwards joined the Company in September 1998.

Mr. Hovorka was appointed Senior Vice President, Corporate Development effective March 1, 2021. He joined the Company in 2008 as Director, Corporate Development, and served as the Company’s Vice President, Corporate Development prior to his current appointment. Prior to joining the Company, Mr. Hovorka held the position of Director/Vice President, Corporate Development with ITOCHU International Inc. and, before that, held roles with both Robertson Stephens and Goldman Sachs.

Mr. Knoll was appointed Senior Vice President, General Counsel and Secretary effective January 1, 2023. Mr. Knoll came to Barnes with over 15 years of General Counsel experience with global, diversified industrial and technology companies. Prior to joining the Company, Mr. Knoll served in roles of increasing responsibility for Rogers Corporation since 2014, most recently as Senior Vice President, Corporate Development, General Counsel and Chief Sustainability Officer.

Mr. Reason was appointed Senior Vice President, Barnes and President, Barnes Aerospace effective May 2, 2022. Prior to joining the Company, Mr. Reason served as President, Mechanical Solutions, Interiors & Structures with the Triumph Group, a \$1.8B aviation and industrial company. Prior to joining the Triumph Group in 2016, Mr. Reason held positions of increasing responsibility at BAE Systems from 2004 to 2016 including Vice President, F-35 Customer Engagement and U.S. General Manager; and Vice President, Business Development & Strategy.

Ms. Streich was appointed Senior Vice President, Finance and Chief Financial Officer effective May 3, 2021. Prior to joining the Company, Ms. Streich served in various roles at Centrica PLC from 2012 through 2020. Ms. Streich served as Centrica PLC's Senior Vice President, Head of Finance Operations from 2019 to 2020, as Vice President, Group Head of Global Planning and Analytics from 2017 to 2019, and as Chief Financial Officer of its Direct Energy Home business from 2016 to 2017. Prior to joining Centrica in 2012, Ms. Streich held finance positions of increasing responsibility with Pentair Process Technologies, Irwin Financial Corporation, Eagle Materials, MeadWestvaco, and Menasha Corporation.

Items 11-14.

The information called for by Items 11-14 is incorporated by reference to the "Governance," "Stock Ownership," "Executive Compensation," "Director Compensation in 2023," "Securities Authorized for Issuance Under Equity Compensation Plans," "Related Person Transactions," and "Principal Accountant Fees and Services" sections in our Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedule

- (a)(1) The following Financial Statements and Supplementary Data of the Company are set forth herein under Item 8 of this Annual Report:
- Consolidated Statements of Income for the years ended December 31, 2023, 2022 and 2021
Consolidated Balance Sheets as of December 31, 2023 and 2022
Consolidated Statements of Comprehensive (Loss) Income for the years ended December 31, 2023, 2022 and 2021
Consolidated Statements of Cash Flows for the years ended December 31, 2023, 2022 and 2021
Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2023, 2022 and 2021
Notes to Consolidated Financial Statements
Report of Independent Registered Public Accounting Firm (PCAOB ID No. 238)
- (a)(2) See Financial Statement Schedule under Item 15(c).
- (a)(3) See Item 15(b) below.
- (b) The Exhibits required by Item 601 of Regulation S-K are filed within the Exhibit Index of this Annual Report, which is incorporated herein by reference.
- (c) Financial Statement Schedule.

Item 16. Form 10-K Summary

None

Schedule II—Valuation and Qualifying Accounts
Years Ended December 31, 2023, 2022 and 2021
(In thousands)

Allowances for Credit Losses:	
Balance January 1, 2021	\$ 6,348
Provision charged to income	(11)
Doubtful accounts written off	(562)
Other adjustments ⁽¹⁾	(150)
Balance December 31, 2021	<u>5,625</u>
Provision charged to income	131
Doubtful accounts written off	(178)
Other adjustments ⁽¹⁾	(356)
Balance December 31, 2022	<u>5,222</u>
Provision charged to income	2,114
Doubtful accounts written off	(462)
Other adjustments ⁽¹⁾	384
Balance December 31, 2023	<u><u>\$ 7,258</u></u>

(1) These amounts are comprised primarily of foreign currency translation and other reclassifications.

Schedule II—Valuation and Qualifying Accounts
Years Ended December 31, 2023, 2022 and 2021
(In thousands)

Valuation Allowance on Deferred Tax Assets:	
Balance January 1, 2021	\$ 3,757
Additions charged to income tax expense	346
Reductions charged to other comprehensive income	(15)
Reductions credited to income tax expense	(241)
Changes due to foreign currency translation	22
Balance December 31, 2021	3,869
Additions charged to income tax expense	2,763
Reductions charged to other comprehensive income	(41)
Reductions credited to income tax expense	(59)
Changes due to foreign currency translation	(76)
Balance December 31, 2022	6,456
Additions charged to income tax expense	6,685
Acquisitions ⁽¹⁾	28,513
Reductions charged to other comprehensive income	51
Reductions credited to income tax expense	(109)
Changes due to foreign currency translation	29
Balance December 31, 2023	<u><u>\$ 41,625</u></u>

(1) The increase in 2023 reflects the valuation allowance recorded at the MB Aerospace business, which was acquired in the third quarter of 2023.

SIGNATURES

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

Date: February 26, 2024

BARNES GROUP INC.

By

/S/ THOMAS J. HOOK

Thomas J. Hook
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below as of the above date by the following persons on behalf of the Company in the capacities indicated.

/S/ THOMAS J. HOOK

Thomas J. Hook
President and Chief Executive Officer
(Principal Executive Officer), and Director

/S/ JULIE K. STREICH

Julie K. Streich
Senior Vice President, Finance and
Chief Financial Officer
(Principal Financial Officer)

/S/ MARIAN ACKER

Marian Acker
Vice President, Controller
(Principal Accounting Officer)

/S/ THOMAS O. BARNES

Thomas O. Barnes

Director

/S/ ELIJAH K. BARNES

Elijah K. Barnes

Director

/S/ JAKKI L. HAUSSLER

Jakki L. Haussler

Director

/S/ RICHARD J. HIPPLE

Richard J. Hipple

Director

/S/ DAPHNE E. JONES

Daphne E. Jones

Director

/S/ NEAL J. KEATING

Neal J. Keating

Director

/S/ MYLLE H. MANGUM

Mylle H. Mangum

Director

/S/ HANS-PETER MÄNNER

Hans-Peter Männer

Director

/S/ ANTHONY V. NICOLOSI

Anthony V. Nicolosi

Director

/S/ JOANNA L. SOHOVICH

JoAnna L. Sohovich

Director

EXHIBIT INDEX

Barnes Group Inc.

Annual Report on Form 10-K for the Year ended December 31, 2023

<u>Exhibit No.</u>	<u>Description</u>	<u>Reference</u>
2.1*	Sale and Purchase Agreement, dated as of September 19, 2018, between Barnes GTE S.r.l., the Company and AGIC Gripper (Netherlands) B.V., HDX S.À.R.L., Asia-Germany Industry 4.0 Promotion Cross-Border Fund I L.P., Xenon Private Equity V Limited Partnership and certain other sellers named therein.	Incorporated by reference to Exhibit 2.1 to Form 8-K filed by the Company on September 24, 2018.
2.2	Stock Purchase Agreement, dated as of June 5, 2023, by and among MB Aerospace Group Holdings Limited, MB Aerospace Holdings Inc., and Barnes Group Inc.	Incorporated by reference to Exhibit 2.1 to the Form 8-K filed by the Company on June 5, 2023.
3.1	Restated Certificate of Incorporation; Certificate of Designation, Preferences and Rights of Series A Junior Participating Preferred Stock; Certificate of Change of Location of registered office and of registered agent, dated December 13, 2002; Certificate of Merger of domestic limited liability company into a domestic company, dated May 19, 2004; Certificate of Amendment of Restated Certificate of Incorporation, dated April 20, 2006; and Certificate of Amendment of Restated Certificate of Incorporation, dated as of May 3, 2013.	Incorporated by reference to Exhibit 3.1 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended June 30, 2013.
3.2	Amended and Restated By-Laws as of July 28, 2016.	Incorporated by reference to Exhibit 3.1 to Form 8-K (Commission file number 0001-04801) filed by the Company on July 29, 2016.
4.1	Description of Securities.	Incorporated by reference to Exhibit 4.1 to the Company's report on Form 10-K for the year ended December 31, 2019.
10.1	(i) Fifth Amended and Restated Senior Unsecured Revolving Credit Agreement, dated September 27, 2011.	Incorporated by reference to Exhibit 4.1 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended June 30, 2013.
	(ii) Amendment No. 2 and Joinder to Credit Agreement dated as of September 27, 2013 (amending Fifth Amended and Restated Senior Unsecured Revolving Credit Agreement, dated as of September 27, 2011).	Incorporated by reference to Exhibit 4.1 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended September 30, 2013.
	(iii) Amendment No. 3 to Credit Agreement dated as of October 15, 2014.	Incorporated by reference to Exhibit 10.1(iii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2014.
	(iv) Amendment No. 4 to Credit Agreement dated as of February 2, 2017.	Incorporated by reference to Exhibit 10.1 to the Company's report on Form 10-Q for the quarter ended March 31, 2017.
	(v) Amendment No. 5 to Credit Agreement dated as of October 19, 2018.	Incorporated by reference to Exhibit 10.1 to the Company's report on Form 10-Q for the quarter ended September 30, 2018.

	(vi) Amendment No. 6 to Credit Agreement dated as of October 8, 2020.	Incorporated by reference to Exhibit 10.2 to Form 8-K filed by the Company on October 13, 2020.
	(vii) Sixth Amended and Restated Senior Unsecured Revolving Credit Agreement, dated as of February 10, 2021.	Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on February 12, 2021.
	(viii) LIBOR Transition Amendment, dated as of October 11, 2021.	Incorporated by reference to Exhibit 10.1 to the Company's report on Form 10-Q for the quarter ended September 30, 2021.
	(ix) Amendment No. 1 to Sixth Amended and Restated Senior Unsecured Revolving Credit Agreement, dated as of April 6, 2022.	Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on April 8, 2022.
	(x) Amendment No. 2 to Credit Agreement, dated as of June 5, 2023, by and among Barnes Group Inc., certain subsidiaries thereto, the lenders and other parties signatory thereto and Bank of America, N.A., as administrative agent.	Incorporated by reference to Exhibit 10.2 to the Form 8-K filed by the Company on June 5, 2023.
	(xi) Amendment No. 3 to Credit Agreement, dated as of June 22, 2023, by and among Barnes Group Inc., certain subsidiaries thereto, the lenders and other parties signatory thereto and Bank of America, N.A., as administrative agent.	Incorporated by reference to Exhibit 10.1 to the Form 8-K filed by the Company on June 26, 2023.
10.2	(i) Note Purchase Agreement, dated as of October 15, 2014, among the Company and New York Life Insurance Company, New York Life Insurance and Annuity Corporation and New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Account (BOLI 30C).	Incorporated by reference to Exhibit 10.1 to Form 8-K (Commission file number 0001-04801) filed by the Company on October 17, 2014.
	(ii) First Amendment to Note Purchase Agreement, dated as of October 8, 2020.	Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on October 13, 2020.
	(iii) Second Amendment to Note Purchase Agreement, dated as of June 5, 2023, between Barnes Group Inc. and the noteholders thereto.	Incorporated by reference to Exhibit 10.1 to the Form 8-K filed by the Company on June 5, 2023.
10.3	(i) Credit Agreement, dated as of August 31, 2023, among Barnes, Barnes Group Switzerland GmbH, a limited liability company (Gesellschaft mit beschränkter Haftung) organized under the laws of Switzerland, Barnes Group Acquisition GmbH, a limited liability company (Gesellschaft mit beschränkter Haftung) incorporated under the laws of Germany, Bank of America, N.A., as Administrative Agent, as Collateral Agent and as Swingline Lender, and each Issuing Bank and Lender party thereto from time to time.	Incorporated by reference to Exhibit 10.1 to the Form 8-K filed by the Company on August 31, 2023.
	(ii) Amendment No. 1 to Credit Agreement, dated as of February 6, 2024, by and among Barnes Group Inc., certain subsidiaries thereto, the lenders and other parties signatory thereto and Bank of America, N.A., as administrative agent.	Filed with this report.
10.4**	(i) Barnes Group Inc. Management Incentive Compensation Plan, amended December 28, 2018.	Incorporated by reference to Exhibit 10.3(ii) to the Company's report on Form 10-K for the year ended December 31, 2018.
	(ii) Barnes Group Inc. Management Incentive Compensation Plan, amended December 9, 2022.	Incorporated by reference to Exhibit 10.3(ii) to the Company's report on Form 10-K for the year ended December 31, 2022.

10.5**	(i) Offer Letter, dated as of June 18, 2022, by and between Barnes Group Inc. and Thomas J. Hook.	Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on June 21, 2022.
	(ii) Employee Non-Disclosure, Non-Competition, Non-Solicitation and Non-Disparagement Agreement, dated as of June 18, 2022, by and between Barnes Group Inc. and Thomas J. Hook.	Incorporated by reference to Exhibit 10.2 to Form 8-K filed by the Company on June 21, 2022.
	(iii) Barnes Group Inc. Inducement Stock Option Award Summary of Grant and Inducement Stock Option Award Agreement dated July 14, 2022.	Incorporated by reference to Exhibit 4.3 to Form S-8 filed by the Company on July 14, 2022.
10.6**	Offer Letter to Julie K. Streich, dated April 20, 2021.	Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on April 30, 2021.
10.7**	Offer Letter to Ian Reason, dated March 17, 2022.	Incorporated by reference to Exhibit 10.3 to the Company's report on Form 10-Q for the quarter ended March 31, 2022.
10.8**	Offer Letter to Lukas Hovorka, dated February 12, 2021.	Incorporated by reference to Exhibit 10.2 to the Company's report on Form 10-Q for the quarter ended March 31, 2021.
10.9**	Offer Letter to Jay B. Knoll, dated November 17, 2022.	Incorporated by reference to Exhibit 10.9 to the Company's report on Form 10-K for the year ended December 31, 2022.
10.10**	(i) Transition and Retirement Agreement, dated as of September 7, 2023, by and between Barnes Group Inc. and Marian Acker.	Incorporated by reference to Exhibit 10.3 to the Form 10-Q filed by the Company on September 30, 2023.
	(ii) Amendment to Transition and Retirement Agreement, dated as of January 17, 2024.	Filed with this report.
10.11**	(i) Barnes Group Inc. Retirement Benefit Equalization Plan, as amended and restated effective January 1, 2013.	Incorporated by reference to Exhibit 10.9(i) to the Company's report on Form 10-K for the year ended December 31 2017.
	(ii) First Amendment to the Barnes Group Inc. Retirement Benefit Equalization Plan dated December 12, 2014.	Incorporated by reference to Exhibit 10.9(ii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2014.
10.12**	(i) Barnes Group Inc. Supplemental Senior Officer Retirement Plan, as amended and restated effective January 1, 2009.	Incorporated by reference to Exhibit 10.3 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2008.
	(ii) Amendment to the Barnes Group Inc. Supplemental Senior Officer Retirement Plan.	Incorporated by reference to Exhibit 10.3(ii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2009.
	(iii) Second Amendment to the Barnes Group Inc. Supplemental Senior Officer Retirement Plan dated December 12, 2014.	Incorporated by reference to Exhibit 10.10(iii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2014.
10.13**	(i) Amended and Restated Supplemental Executive Retirement Plan effective April 1, 2012.	Incorporated by reference to Exhibit 10.11(i) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.

	(ii) Amendment 2013-1 to the Barnes Group Inc. Supplemental Executive Retirement Plan dated July 23, 2013.	Incorporated by reference to Exhibit 10.3 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended June 30, 2013.
	(iii) Amendment 2014-1 to the Barnes Group Inc. Supplemental Executive Retirement Plan dated December 12, 2014.	Incorporated by reference to Exhibit 10.11(iii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2014.
10.14**	Barnes Group Inc. Senior Executive Enhanced Life Insurance Program, as amended and restated effective April 1, 2011.	Incorporated by reference to Exhibit 10.12 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.15**	Barnes Group Inc. Enhanced Life Insurance Program, as amended and restated effective April 1, 2011.	Incorporated by reference to Exhibit 10.13 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.16**	Barnes Group Inc. Executive Group Term Life Insurance Program effective April 1, 2011.	Incorporated by reference to Exhibit 10.14 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.17**	Form of Barnes Group Inc. Executive Officer Severance Agreement, as amended March 31, 2010.	Incorporated by reference to Exhibit 10.15 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.18**	Form of Barnes Group Inc. Executive Officer Severance Agreement, effective February 19, 2014.	Incorporated by reference to Exhibit 10.1 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended March 31, 2014.
10.19**	Barnes Group Inc. Executive Separation Pay plan, as amended and restated effective August 1, 2023.	Incorporated by reference to Exhibit 10.2 to the Form 10-Q filed by the Company on September 30, 2023.
10.20**	(i) Trust Agreement between the Company and Fidelity Management Trust Company (Barnes Group 2009 Deferred Compensation Plan) dated September 1, 2009.	Incorporated by reference to Exhibit 10.18(i) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
	(ii) Amended and Restated Barnes Group 2009 Deferred Compensation Plan effective as of April 1, 2012.	Incorporated by reference to Exhibit 10.18(ii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
	(iii) First Amendment to the Barnes Group 2009 Deferred Compensation Plan dated December 12, 2014.	Incorporated by reference to Exhibit 10.18(iii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2014.
10.21**	Barnes Group Inc. Non-Employee Director Deferred Stock Plan, as amended and restated December 31, 2008.	Incorporated by reference to Exhibit 10.19 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.22**	Barnes Group Inc. Directors' Deferred Compensation Plan, as amended and restated December 31, 2008.	Incorporated by reference to Exhibit 10.20 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
	(i) Amendment #1 to Directors' Deferred Compensation Plan, effective May 5, 2023.	Incorporated by reference to Exhibit 10.96 to the Form 10-Q filed by the Company on June 30, 2023.

10.23**	Barnes Group Inc. Trust Agreement for Specified Plans.	Incorporated by reference to Exhibit 10.22 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.24**	Form of Incentive Compensation Reimbursement Agreement between the Company and certain Officers.	Incorporated by reference to Exhibit 10.23 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.25**	Form of Indemnification Agreement between the Company and its Officers and Directors.	Incorporated by reference to Exhibit 10.24 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.26**	(i) Barnes Group Inc. Stock and Incentive Award Plan, as amended March 15, 2010.	Incorporated by reference to Exhibit 10.25(ii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
	(ii) Exercise of Authority Relating to the Stock and Incentive Award Plan, dated March 3, 2009.	Incorporated by reference to Exhibit 10.25(iii) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
	(iii) Amendment 2010-1 approved on December 9, 2010 to the Barnes Group Inc. Stock and Incentive Award Plan as amended March 15, 2010.	Incorporated by reference to Exhibit 10.25(iv) to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
10.27**	2014 Barnes Group Inc. Stock and Incentive Award Plan.	Incorporated by reference to Annex A to the Company's definitive proxy statement (Commission file number 0001-04801) filed with the Securities and Exchange Commission on March 25, 2014.
10.28**	2023 Barnes Group Inc. Stock and Incentive Award Plan.	Incorporated by reference to Annex A to the Company's Definitive Proxy Statement on Schedule 14A filed on March 24, 2023.
10.29**	Form of Barnes Group Inc. Stock and Incentive Award Plan Stock Option Summary of Grant and Stock Option Agreement for Employees in Grade 21 and up dated as of February 8, 2011.	Incorporated by reference to Exhibit 10.3 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended March 31, 2011.
10.30**	Form of Barnes Group Inc. Stock and Incentive Award Plan Stock Option Summary of Grant and Stock Option Agreement for Employees in Grade 21 and up dated May 9, 2014.	Incorporated by reference to Exhibit 10.4 to the Company's report on Form 10-Q (Commission file number 0001-04801) for the quarter ended June 30, 2014.
10.31**	Form of Barnes Group Inc. Stock and Incentive Award Plan Stock Option Summary of Grant and Stock Option Agreement for Employees in Grade 21 and up dated February 9, 2016.	Incorporated by reference to Exhibit 10.33 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2015.
10.32**	Form of Barnes Group Inc. Stock and Incentive Award Plan Restricted Stock Unit Summary of Grant for Employees and Restricted Stock Unit Agreement dated February 9, 2016.	Incorporated by reference to Exhibit 10.32 to the Company's report on Form 10-K for the year ended December 31, 2018.
10.33**	Form of Barnes Group Inc. Stock and Incentive Award Plan Performance Share Award Summary of Grant and Performance Share Award Agreement for Officers and Other Individuals as Designated by the Compensation and Management Development Committee dated as of February 13, 2020.	Incorporated by reference to Exhibit 10.2 to the Company's report on Form 10-Q for the quarter ended March 31, 2020.

10.34**	Form of Barnes Group Inc. Stock and Incentive Award Plan Performance Share Award Summary of Grant and Performance Share Award Agreement for Officers and Other Individuals as Designated by the Compensation and Management Development Committee dated as of February 11, 2021.	Incorporated by reference to Exhibit 10.1 to the Company's report on Form 10-Q for the quarter ended March 31, 2021.
10.35**	Form of Barnes Group Inc. Stock and Incentive Award Plan Stock Option Summary of Grant and Stock Option Agreement for Employees in Grade 21 and up, dated as of May 5, 2023.	Incorporated by reference to Exhibit 10.1 to the Form S-8 filed by the Company on May 9, 2023.
10.36**	Form of Barnes Group Inc. Stock and Incentive Award Plan Performance Share Award Summary of Grant and Performance Share Award Agreement for Officers and Other Individuals as Designated by the Compensation and Management Development Committee, dated as of May 5, 2023.	Incorporated by reference to Exhibit 10.2 to the Form S-8 filed by the Company on May 9, 2023.
10.37**	Form of Barnes Group Inc. Stock and Incentive Award Plan Restricted Stock Unit Summary of Grant and Restricted Stock Unit Agreement for Employees, dated as of May 5, 2023.	Incorporated by reference to Exhibit 10.3 to the Form S-8 filed by the Company on May 9, 2023.
10.38**	Form of Barnes Group Inc. Stock and Incentive Award Plan Restricted Stock Unit Summary of Grant and Restricted Stock Unit Agreement for Directors, dated as of May 5, 2023.	Incorporated by reference to Exhibit 10.4 to the Form S-8 filed by the Company on May 9, 2023.
10.39**	Performance-Linked Bonus Plan for Selected Executive Officers approved by Shareholders on May 6, 2016.	Incorporated by reference to Exhibit 10.42 to the Company's report on Form 10-K (Commission file number 0001-04801) for the year ended December 31, 2016.
21	List of Subsidiaries.	Filed with this report.
23	Consent of Independent Registered Public Accounting Firm.	Filed with this report.
31.1	Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed with this report.
31.2	Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed with this report.
32	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Furnished with this report.
97	Barnes Group Inc. Comprehensive Recovery Policy, effective as of October 1, 2023.	Filed with this report.
101.INS	XBRL Instance Document.	Filed with this report.
101.SCH	XBRL Taxonomy Extension Schema Document.	Filed with this report.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	Filed with this report.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	Filed with this report.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	Filed with this report.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	Filed with this report.

* The Company hereby agrees to provide the Commission upon request copies of any omitted exhibits or schedules to this exhibit required by Item 601(b)(2) of Regulation S-K.

** Management contract or compensatory plan or arrangement.

Board Of Directors

Thomas O. Barnes Chairman of the Board, Barnes	Jakki L. Haussler Non-Executive Chairman, Opus Capital Management, Inc.	Adam J. Katz Co-Founder and CIO, Irenic Capital Management	Hans-Peter Männer Managing Director, HPM Invest GmbH
Elijah K. Barnes Principal, Avison Young	Richard J. Hipple Former Executive Chairman, Materion Corporation	Neal J. Keating Former Executive Chairman, Kaman Corporation	Anthony V. Nicolosi Former Partner, KPMG LLP
Thomas J. Hook President and Chief Executive Officer, Barnes	Daphne E. Jones Former Senior Vice President, Digital/Future of Work for GE Healthcare	Mylle H. Mangum Chief Executive Officer, IBT Enterprises, LLC	JoAnna L. Sohovich Chair, Board of Directors, Chamberlain Group

Officers

Thomas J. Hook President and Chief Executive Officer	Lukas Hovorka Senior Vice President, Corporate Development	Ian Reason Senior Vice President, Barnes and President, Barnes Aerospace
Marian Acker Vice President, Controller	Michael V. Kennedy Vice President, Tax and Treasury	Julie K. Streich Senior Vice President, Finance and Chief Financial Officer
Dawn N. Edwards Senior Vice President, Human Resources	Jay B. Knoll Senior Vice President, General Counsel and Secretary	

Corporate Information

Transfer Agent and Registrar Computershare P.O. Box 43078 Providence, RI 02940-3078 Phone: 1-800-801-9519 Within USA, US territories & Canada Phone: 1-201-680-6578 Outside USA, US territories & Canada For the hearing impaired: 1-800-952-9245 Within USA, US territories & Canada 1-781-575-4592 Outside USA, US territories & Canada www.computershare.com/investor Use the above address, phone numbers and Internet address for information about the following services: Direct Deposit of Dividends, Stockholders Inquiries, Change of Name or Address, Consolidations, Lost Certificates, Replacement.	Direct Stock Purchase Plan/ Dividend Reinvestment Initial purchases of Barnes Group common stock can be made through the Direct Stock Purchase Plan. Dividends on Barnes Group common stock may be automatically invested in additional shares. Stock Exchange New York Stock Exchange Stock Trading Symbol: B Independent Registered Public Accounting Firm PricewaterhouseCoopers LLP 185 Asylum Street, Hartford, CT 06103 Communications For press releases and other information about the Company, go to our Internet address at www.onebarnes.com or contact: Investor Relations William E. Pitts Vice President, Investor Relations IR@onebarnes.com	Barnes 123 Main Street Bristol, CT 06010-6376 USA Phone: 1-860-583-7070
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Annual Meeting

The Barnes Group Inc. Annual Meeting of Stockholders will be held at **11:00 a.m. E.T., Friday, May 3, 2024**. For your convenience, the 2024 Annual Meeting will be a hybrid meeting. This means that you may attend the Annual Meeting either in person at the DoubleTree by Hilton Hotel, Bristol, Connecticut, or virtually via a live audio webcast by clicking on www.virtualshareholdermeeting.com/B2024 at the time and date noted above.

If you were a stockholder as of the close of business on March 14, 2024, you may vote during the Annual Meeting either in person or by following the instructions available on the meeting website during the live audio webcast provided you have your control number. The control number can be found on your proxy card, voting instruction form or notice you previously received. If you do not have your control number, you may attend the live audio webcast as a guest (non-stockholder), but will not have the option to vote your shares via the live audio webcast.



BARNES™

Corporate Office
123 Main Street
Bristol, CT 06010-6376
USA
onebarnes.com