

**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
OR

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

Commission File Number 1-3610

HOWMET AEROSPACE INC.

(Exact name of registrant as specified in its charter)

[illegible]

201 Isabella Street, Suite 200, Pittsburgh, Pennsylvania 15212-5872

(Address of principal executive offices) (Zip code)

Investor Relations-----(412) 553-1950

Office of the Secretary-----(412) 553-1940

(Registrant's telephone numbers, including area code)

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

[illegible]

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

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, 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, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐

Smaller reporting company ☐ Emerging growth company ☐

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

Indicate by check mark whether the registrant 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). Yes ☐ No ☐

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

The aggregate market value of the outstanding common stock, other than shares held by persons who may be deemed affiliates of the registrant, as of the last business day of the registrant's most recently completed second fiscal quarter was approximately \$20 billion. As of February 9, 2024, there were 410,303,651 shares of common stock, par value \$1.00 per share, of the registrant outstanding.

Documents incorporated by reference.

Part III of this Form 10-K incorporates by reference certain information from the registrant's definitive Proxy Statement for its 2024 Annual Meeting of Shareholders to be filed pursuant to Regulation 14A (Proxy Statement).

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Note on Incorporation by Reference

In this Form 10-K, selected items of information and data are incorporated by reference to portions of Howmet Aerospace Inc.’s definitive proxy statement for its 2024 Annual Meeting of Shareholders (the “Proxy Statement”), which we expect to file with the Securities and Exchange Commission within 120 days after Howmet Aerospace Inc.’s fiscal year ended December 31, 2023. Unless otherwise provided herein, any reference in this report to disclosures in the Proxy Statement shall constitute incorporation by reference of only that specific disclosure into this Form 10-K.

Forward-Looking Statements

This report contains (and oral communications made by Howmet Aerospace Inc. (“Howmet”) may contain) statements that relate to future events and expectations and, as such, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as “anticipates”, “believes”, “could”, “estimates”, “expects”, “forecasts”, “goal”, “guidance”, “intends”, “may”, “outlook”, “plans”, “projects”, “seeks”, “sees”, “should”, “targets”, “will”, “would”, or other words of similar meaning. All statements that reflect Howmet’s expectations, assumptions or projections about the future, other than statements of historical fact, are forward-looking statements, including, without limitation, statements, forecasts and outlook relating to the condition of end markets; future financial results, operating performance, or estimated or expected future capital expenditures; future strategic actions; Howmet’s strategies, outlook, and business and financial prospects; and any future dividends and repurchases of its debt or equity securities. These statements reflect beliefs and assumptions that are based on Howmet’s perception of historical trends, current conditions and expected future developments, as well as other factors Howmet believes are appropriate in the circumstances. Although Howmet believes that the expectations reflected in any forward-looking statements are based on reasonable assumptions, it can give no assurance that these expectations will be attained, and it is possible that actual results may differ materially from those indicated by these forward-looking statements due to a variety of risks, uncertainties, and changes in circumstances that are difficult to predict. For a discussion of some of the specific factors that may cause Howmet’s actual results to differ materially from those projected in any forward-looking statements, see the following sections of this report: [Part I, Item 1A](#) (Risk Factors), [Part II, Item 7](#) (Management’s Discussion and Analysis of Financial Condition and Results of Operations), including the disclosures under Segment Information and Critical Accounting Policies and Estimates, and [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#). Market projections are subject to the risks discussed in this report and other risks in the market. Howmet disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

PART I

Item 1. Business.

General

Howmet Aerospace Inc. (formerly known as Arconic Inc.) is a Delaware corporation with its principal office in Pittsburgh, Pennsylvania and the successor to Arconic Inc., a Pennsylvania corporation formed in 1888 and formerly known as Alcoa Inc. In this report, unless the context otherwise requires, “Howmet”, the “Company”, “we”, “us”, and “our” refer to Howmet Aerospace Inc., a Delaware corporation, and its consolidated subsidiaries.

The Company’s Internet address is <http://www.howmet.com>. Howmet makes available free of charge on or through its website its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as well as proxy statements, as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the Securities and Exchange Commission (“SEC”). The Company’s website is included in this annual report on Form 10-K as an inactive textual reference only. The information on, or accessible through, the Company’s website is not a part of, or incorporated by reference in, this annual report on Form 10-K. The SEC maintains an Internet site that contains these reports at <http://www.sec.gov>.

Background

As described below, Howmet Aerospace Inc. was previously named Arconic Inc. and, prior to that, Alcoa Inc.

The Arconic Inc. Separation Transaction. On April 1, 2020, Arconic Inc. separated its businesses (the “Arconic Inc. Separation Transaction”) into two independent, publicly traded companies: Howmet Aerospace Inc. (the new name for Arconic Inc.) and Arconic Corporation. Following this separation, Howmet retained the Engine Products, Fastening Systems, Engineered Structures, and Forged Wheels businesses; and its prior Rolled Products, Aluminum Extrusions, and Building and Construction Systems businesses were spun-off to Arconic Corporation. In connection with the Arconic Inc. Separation Transaction, Howmet and Arconic Corporation entered into several agreements that govern their post-separation relationship.

The 2017 Reincorporation in Delaware. On December 31, 2017, Arconic Inc., then a Pennsylvania corporation, changed its jurisdiction of incorporation from Pennsylvania to Delaware.

The Alcoa Inc. Separation Transaction. On November 1, 2016, Alcoa Inc. completed the separation of its business (the “Alcoa Inc. Separation Transaction”) into two independent, publicly traded companies: Arconic Inc. (the new name for Alcoa Inc., which, through the transactions described above, later became Howmet Aerospace Inc.) and Alcoa Corporation. Following this separation, the Company retained the Engineered Products and Solutions, Global Rolled Products, and Transportation and Construction Solutions businesses; and its previous Alumina and Primary Metals businesses, rolling mill operations in Warrick, Indiana and 25.1% interest in the Ma’aden Rolling Company were spun-off to Alcoa Corporation. In connection with the Alcoa Inc. Separation Transaction, the two companies entered into several agreements that govern their post-separation relationship.

Overview

Howmet is a leading global provider of advanced engineered solutions for the aerospace and transportation industries. The Company’s primary businesses focus on jet engine components, aerospace fastening systems, and airframe structural components necessary for mission-critical performance and efficiency in aerospace and defense applications, as well as forged aluminum wheels for commercial transportation. Howmet’s technological capabilities support the innovation and growth of next-generation aerospace programs. Its differentiated technologies enable lighter, more fuel-efficient aircraft and commercial trucks to operate with a lower carbon footprint and support more sustainable air and ground transportation.

Howmet is a global company operating in 20 countries. Based upon the country where the point of shipment occurred, North America and Europe generated 70% and 23%, respectively, of Howmet’s sales in 2023. In addition, Howmet has operating activities in numerous countries and regions outside of North America and Europe, including China and Japan.

Description of the Business

The Company produces products that are used primarily in the aerospace (commercial and defense), commercial transportation, and industrial and other markets. Howmet seeks to provide its customers with innovative solutions through offering differentiated products such as airfoils with advanced cooling and coatings for extreme temperature applications; specially-designed fasteners for lightweight composite airframe construction, reduced assembly costs, and lightning strike protection; and lightweight aluminum commercial wheels. Its products and solutions include investment castings for jet engines and industrial gas turbines (nickel superalloys, titanium, and aluminum), including airfoils and structural parts; seamless rolled rings for jet engines (mostly nickel superalloys); fastening systems for aerospace, industrial and commercial transportation applications (titanium, steel, and nickel superalloys); forged jet engine components (e.g., jet engine disks); machined and forged aircraft parts (titanium and aluminum); and forged aluminum commercial vehicle wheels, all of which are sold directly to customers and/or through distributors.

Aerospace (Commercial and Defense) Market. Howmet's largest market is aerospace, which represented approximately 64% of the Company's revenue in 2023. The Company produces a range of high performance multi-materials, highly engineered products, and vertically integrated machined solutions for aero engines and airframe structures, ranging from investment castings, advanced coatings, seamless rings, forgings, titanium extrusions, and titanium mill products, to fasteners that hold aircraft together. Wingtip to wingtip, nose to tail, Howmet can produce more than 90% of all structural and rotating aero engine components. Modernization of the commercial and defense platforms is driven by an array of challenging performance requirements. With its precision engineering, materials science expertise, and advanced manufacturing processes, Howmet aims to help its customers achieve greater fuel economies, reduced emissions, passenger comfort, and maintenance efficiencies.

Commercial Transportation Market. The commercial transportation market represented approximately 21% of the Company's revenue in 2023. The Company invented the forged aluminum truck wheel in 1948, and continues to advance technology to deliver breakthrough solutions that make trucks and buses lighter, more fuel efficient and sharper-looking. Howmet's forged aluminum wheels are a leading choice for commercial trucks and mass transportation vehicles because they can reduce weight and save fuel. The strength of the Company's rivets, bolts and fasteners offers another light-weighting solution that delivers performance.

Industrial and Other Markets. Industrial and other markets include industrial gas turbines, oil and gas, and other industrials, which represented approximately 15% of the Company's revenue in 2023.

Howmet has four reportable segments, which are organized by product on a worldwide basis: Engine Products, Fastening Systems, Engineered Structures and Forged Wheels.

Engine Products

Engine Products utilizes advanced designs and techniques to support next-generation engine programs and produces components primarily for aircraft engines and industrial gas turbines, including airfoils and seamless rolled rings. Engine Products produces rotating parts as well as structural parts. Engine Products principally serves the commercial and defense aerospace, industrial gas turbine, and oil and gas markets.

Fastening Systems

Fastening Systems produces aerospace and industrial fastening systems as well as commercial transportation fasteners and installation tools. In addition to highly engineered aerospace fasteners with a broad range of fastening systems, the segment also supplies the commercial transportation, renewable, and material handling industries. The business's high-tech, multi-material fastening systems are found nose to tail on commercial and military aircraft, as well as on jet engines, industrial gas turbines, commercial transportation vehicles, wind turbines, solar power systems, and construction and industrial equipment.

Engineered Structures

Engineered Structures produces titanium ingots and mill products for aerospace and defense applications and is vertically integrated to produce titanium forgings, extrusions, forming and machining services for airframe, wing, aero-engine, and landing gear components. Engineered Structures also produces aluminum forgings, nickel forgings, and aluminum machined components, and assemblies for aerospace and defense applications. The principal markets served by Engineered Structures are commercial aerospace, defense aerospace, and land and sea defense.

Forged Wheels

Forged Wheels manufactures forged aluminum wheels for trucks, buses, and trailers and related products for the global commercial transportation market. The Company's portfolio of wheels is sold under the product brand name Alcoa® Wheels, which are five times stronger and 47% lighter than steel wheels. The Ultra ONE® Wheel with MagnaForce® alloy is the lightest portfolio of wheels on the market. The Company's proprietary Dura-Bright® surface treatment is unmatched in appearance and corrosion protection.

For additional discussion of each segment's business, see “Results of Operations—Segment Information” in [Part II, Item 7](#) (Management’s Discussion and Analysis of Financial Condition and Results of Operations) and [Note C](#) to the Consolidated Financial Statements in [Part II, Item 8](#).

Sales by Market and Significant Customer Revenue

Sales by market for the years ended December 31, 2023, 2022, and 2021, were:

	For the Year Ended December 31,											
	2023			2022			2021					
Aerospace - Commercial	49	%		46	%		41	%				
Aerospace - Defense	15	%		16	%		19	%				
Commercial Transportation	21	%		23	%		23	%				
Industrial and Other	15	%		15	%		17	%				

In 2023, General Electric Company and RTX Corporation represented approximately 12% and 9%, respectively, of the Company’s third-party sales. The loss of any such significant customer could have a material adverse effect on such businesses. See [Part I, Item 1A](#) (Risk Factors).

The Company's Principal Facilities⁽¹⁾

Country	Facility Location	Segment	Products
Australia	Oakleigh	Fastening Systems	Fasteners
Canada	Georgetown, Ontario ⁽²⁾	Engine Products	Aerospace Castings
	Laval, Québec	Engine Products; Engineered Structures	Aerospace Castings and Machining
China	Suzhou ⁽²⁾	Engine Products; Fastening Systems; Forged Wheels	Fasteners, Rings and Wheels Machining
France	Dives-sur-Mer	Engine Products	Aerospace and Industrial Gas Turbine Castings
	Evron	Engine Products	Aerospace and Specialty Castings
	Gennevilliers	Engine Products	Aerospace and Industrial Gas Turbine Castings
	St. Cosme-en-Vairais ⁽²⁾	Fastening Systems	Fasteners
	Toulouse	Fastening Systems	Fasteners
	Us-par-Vigny	Fastening Systems	Fasteners
Germany	Bestwig	Engine Products	Aerospace Castings
	Erwitte	Engine Products	Machining of Aerospace Castings
	Hildesheim-Bavenstedt ⁽²⁾	Fastening Systems	Fasteners
	Kelkheim ⁽²⁾	Fastening Systems	Fasteners
Hungary	Nemesvámos	Fastening Systems	Fasteners
	Székesfehérvár	Engine Products; Forged Wheels	Aerospace and Industrial Gas Turbine Castings and Forgings
Japan	Jôetsu City ⁽²⁾	Forged Wheels	Wheels Machining
	Nomi	Engine Products	Aerospace and Industrial Gas Turbine Castings
Mexico	Ciudad Acuña ⁽²⁾	Engine Products; Fastening Systems	Aerospace Castings/Rings and Fasteners
	Monterrey	Forged Wheels	Forgings
Morocco	Casablanca ⁽²⁾	Fastening Systems	Fasteners
United Kingdom	Ecclesfield	Engine Products	Metal, Billets
	Exeter ⁽²⁾	Engine Products	Aerospace and Industrial Gas Turbine Castings and Alloy
	Glossop	Engine Products	Metal, Billets
	Ickles	Engine Products	Metal, Billets
	Leicester ⁽²⁾	Fastening Systems	Fasteners
	Redditch ⁽²⁾	Fastening Systems	Fasteners
	Telford	Fastening Systems	Fasteners
	Welwyn Garden City	Engineered Structures	Aerospace Formed Parts

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Country	Facility Location	Segment	Products
United States	Tucson, AZ ⁽²⁾	Fastening Systems	Fasteners
	Carson, CA ⁽²⁾	Fastening Systems	Fasteners
	City of Industry, CA ⁽²⁾	Fastening Systems	Fasteners
	Fontana, CA	Engine Products	Rings
	Fullerton, CA ⁽²⁾	Fastening Systems	Fasteners
	Rancho Cucamonga, CA	Engine Products	Rings
	Torrance, CA	Fastening Systems	Fasteners
	Branford, CT	Engine Products	Aerospace Coatings
	Winsted, CT	Engine Products	Aerospace Machining
	Savannah, GA	Engineered Structures	Forgings, Disks
	La Porte, IN	Engine Products	Aerospace and Industrial Gas Turbine Castings
	Whitehall, MI	Engine Products	Aerospace and Industrial Gas Turbine Castings and Coatings, Titanium Alloy and Specialty Products
	Washington, MO	Engineered Structures	Titanium Mill Products
	Big Lake, MN	Engineered Structures	Aerospace Machining
	New Brighton, MN	Engineered Structures	Aerospace Machining
	Dover, NJ	Engine Products	Aerospace and Industrial Gas Turbine Castings and Alloy
	Kingston, NY ⁽²⁾	Fastening Systems	Fasteners
	Rochester, NY	Engine Products	Rings
	Barberton, OH	Forged Wheels	Wheels Machining
	Canton, OH ⁽²⁾	Engineered Structures	Titanium Mill Products
	Cleveland, OH	Engine Products; Engineered Structures; Forged Wheels	Forgings, Investment Casting Equipment, and Aerospace Components
	Niles, OH	Engineered Structures	Titanium Mill Products
	Morristown, TN ⁽²⁾	Engine Products	Aerospace and Industrial Gas Turbine Ceramic Products
	Houston, TX ⁽²⁾	Engineered Structures	Extrusions
	Waco, TX ⁽²⁾	Fastening Systems	Fasteners
	Wichita Falls, TX	Engine Products	Aerospace and Industrial Gas Turbine Castings
	Hampton, VA ⁽²⁾	Engine Products	Aerospace and Industrial Gas Turbine Castings
	Martinsville, VA	Engineered Structures	Titanium Mill Products

⁽¹⁾ Principal facilities are listed by location, with certain locations having more than one facility. The list in the above table does not include 18 locations that serve as sales and administrative offices, distribution centers or warehouses.

⁽²⁾ Leased property or partially leased property.

Sources and Availability of Raw Materials

Important raw materials purchased in 2023 for each of the Company's reportable segments are listed below.

Engine Products	Fastening Systems	Engineered Structures	Forged Wheels
Ceramics	Aluminum Alloys	Energy	Energy
Cobalt	Energy	Nickel Alloys	Primary and Scrap Aluminum
Energy	Nickel Alloys and Stainless Steels	Primary Aluminum	
Nickel	Steels	Titanium Scrap	
Platinum	Titanium Alloys	Titanium Sponge	
Titanium		Vanadium Alloys	

Generally, raw materials are purchased from third-party suppliers under competitively priced supply contracts or bidding arrangements. The Company believes that the raw materials necessary to its business are and will continue to be available.

Patents, Trade Secrets and Trademarks

The Company believes that its domestic and international patent, trade secret and trademark assets provide it with a significant competitive advantage. The Company's rights under its patents, as well as the products made and sold under them, are important to the Company as a whole and, to varying degrees, important to each business segment. The patents owned by Howmet generally concern particular products, manufacturing equipment or techniques. Howmet's business as a whole is not, however, materially dependent on any single patent, trade secret or trademark. As a result of product development and technological advancement, the Company continues to pursue patent protection in jurisdictions throughout the world. As of the end of 2023, the Company's worldwide patent portfolio consists of approximately 940 granted patents and 215 pending patent applications.

The Company also has a significant number of trade secrets, mostly regarding manufacturing processes and material compositions that give many of its businesses important advantages in their markets. The Company continues to strive to improve those processes and generate new material compositions that provide additional benefits. With respect to domestic and international registered trademarks, the Company has many that have significant recognition within the markets that are served. Examples include the name Howmet® metal castings, Huck® fasteners, and Dura-Bright® wheels with easy-clean surface treatments. A significant trademark filing campaign for the names "Howmet" and "Howmet Aerospace" along with its "H" logo was initiated in 2019, in support of the corporate launch of Howmet Aerospace Inc. As of the end of 2023, the Company's worldwide trademark portfolio consists of approximately 1,470 registered trademarks and 116 pending trademark applications. The Company's rights under its trademarks are important to the Company as a whole and, to varying degrees, important to each business segment.

Competitive Conditions

The Company's segments - Engine Products, Fastening Systems, Engineered Structures, and Forged Wheels - are subject to substantial and intense competition in the markets they serve. Although Howmet believes its advanced technology, manufacturing processes and experience provide advantages to Howmet's customers, such as high quality and superior mechanical properties that meet the Company's customers' most stringent requirements, many of the products Howmet makes can be produced by competitors using similar types of manufacturing processes as well as alternative forms of manufacturing. Despite intense competition, Howmet continues as a market leader in most of its principal markets. We believe that factors such as Howmet's technological expertise, state-of-the-art capabilities, capacity, quality, engaged employees and long-standing customer relationships enable the Company to maintain its competitive position.

Principal competitors include Berkshire Hathaway Inc., through its 2016 acquisition of Precision Castparts Corporation and subsidiaries, for titanium and titanium-based alloys, precision forgings, seamless rolled rings, investment castings, including airfoils, and aerospace fasteners; VSMPO (Russia) for titanium and titanium-based alloys and precision forgings; Allegheny Technologies, Inc.'s High-Performance Materials & Components segment for titanium and titanium-based alloys and precision forgings; Lisi Aerospace (France) for aerospace fasteners; and Aubert & Duval (part of Eramet Group in France) for precision forgings. Other competitors include Doncasters Group Ltd. (U.K.) and Consolidated Precision Products Corp. (owned by Warburg Pincus and Berkshire Partners) for investment castings; Weber Metals (part of Otto Fuchs) for precision forgings; and Forgitel and Frisa (Mexico) for seamless rings.

Forged Wheels competes against aluminum and steel wheel suppliers in the commercial transportation industry under the product brand name Alcoa® Wheels for the major regions that it serves (North America, Europe, Japan, China, South America, and Australia). Its larger aluminum wheel competitors are Accuride Corporation, Speedline (member of the Ronal Group), Nippon Steel Corporation, Dicastal, Alux, and Wheels India Limited.

In recent years, Forged Wheels has seen an increase in the number of aluminum wheel suppliers (both forged and cast aluminum wheels) from China, Taiwan, India and South Korea attempting to penetrate the global commercial transportation market.

Several of Howmet's largest customers have captive superalloy furnaces for producing airfoil investment castings for their own use. Many other companies around the world also produce superalloy investment castings, and some of these companies currently compete with Howmet in the aerospace and other markets, while others are capable of competing with the Company should they choose to do so.

International competition in the investment castings, fasteners, rings and forgings markets may also increase in the future as a result of strategic alliances among engine original equipment manufacturers ("OEMs"), aero-structure prime contractors, and overseas companies, especially in developing markets, particularly where "offset" or "local content" requirements create purchase obligations with respect to products manufactured in or directed to a particular country.

Government Regulations and Environmental Matters

Our operations and activities are global and are subject to various federal, state, local, and foreign laws, rules and regulations, including those relating to the environment. In 2023, compliance with these laws, rules and regulations did not have a material effect on our capital expenditures, results of operations or competitive position. Additionally, we do not currently anticipate material capital expenditures for environmental control facilities in 2024. For a discussion of the risks associated with certain applicable laws and regulations, see "Risk Factors." Information relating to environmental matters is included in [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) under the caption "Environmental Matters."

Human Capital

To attract, recruit, develop and retain world-class talent, the Company has created a culture that embraces diversity, drives inclusion, and empowers and engages our employees. Our Code of Conduct describes how we lead with integrity and work with one another while supporting our stakeholders. The Company provides competitive wages, benefits and terms of employment.

Attracting and recruiting candidates through workforce planning, increased hiring efficiency and effective onboarding has been a priority for the Company. New technology that increases the automation of job postings enables us to more widely disseminate our job vacancies to diverse partners and job boards, such as our campus recruitment platform that provides an ability to proactively reach a broad talent network of students and schools across the United States. To retain new talent, the Company offers an onboarding program to develop a sense of belonging, teamwork and productivity. In addition to existing training development programs for salaried employees, we extended training access using technology to our hourly employees during 2023. We believe providing employees with avenues to new skills contributes to increased motivation and engagement, resulting in higher employee retention.

The Company enables our employees to own their development and create rewarding careers that draw on their aptitudes and support their ambitions. Our development process framework provides tools and resources to identify career options, skills gaps and actions they can take to progress within the Company. Using a human capital management platform, employees can build a professional profile to share their career aspirations and learn new skills. This platform allows us to align employee goals and growth with the Company's future business needs so that we can pinpoint potential successor candidates and build their readiness for their future roles. Our talent review and succession planning process is an ongoing priority and is sponsored and led by our Chief Executive Officer ("CEO") with oversight by the Board of Directors.

We use a data-driven approach to track how our employees are progressing through our organization. We seek to identify high performers and support their development into potential future leaders, with a particular focus on providing equitable opportunities to individuals who are members of underrepresented groups. Our Employee Resource Groups, composed of the African Heritage, EurAsian Diversity & Inclusion, Latin+, Next Generation, Pride, Veterans, and Women's Networks, continue to be fundamental to building our culture of inclusion. These networks provide colleagues with valuable support and advice, create development opportunities, and provide leadership with feedback that raises awareness of issues and challenges. The Company also provides diversity awareness training and resources. Our Board of Directors and Executive Leadership team review diversity, equity and inclusion activity on a regular basis.

Howmet's strong health and safety culture empowers our employees and contractors to take personal responsibility for their actions and the safety of their coworkers. This culture is supported by internal policies, standards, rules and procedures that clearly articulate our stringent requirements for working safely in all of our worldwide facilities. The Company embeds annual health and safety goals and objectives into its operating plans to progress against our ultimate goal of zero incidents. We prioritize our risk management processes toward the prevention of fatality and serious injury.

Employees

Total worldwide employment at the end of 2023 was approximately 23,200 employees in 23 countries.

Approximately 3,400 employees, or 25% of the U.S. workforce, are represented by labor unions in the United States. Within the United States, there are eight collective bargaining agreements with varying expiration dates between Howmet and various labor unions. Of these eight, the largest workforce covered under a collective bargaining agreement is between Howmet and the United Autoworkers (“UAW”) at our Whitehall, Michigan location. This covers approximately 1,400 employees; the current agreement, which was ratified in 2023, expires on April 1, 2028. The second largest workforce covered under a collective bargaining agreement is between Howmet and the UAW at our Cleveland, Ohio location. This covers approximately 750 employees; the current agreement expires on April 28, 2024. The Cleveland location began negotiations with the UAW in February 2024. On a regional basis, collective bargaining agreements with varying expiration dates cover employees in Europe, North America, South America, and Asia. The Company believes that it has positive relationships with its employees and any respective labor union representatives.

Executive Officers of the Registrant

The names, ages, positions and areas of responsibility of the executive officers of the Company as of February 13, 2024 are listed below. The Company’s executive officers are annually elected or appointed to serve until the next annual meeting of the Board of Directors (held in conjunction with the annual meeting of shareholders), except in the case of earlier death, retirement, resignation or removal.

Michael N. Chanatry, 63, Vice President and Chief Commercial Officer. Mr. Chanatry was initially elected Vice President and Chief Commercial Officer of Howmet effective May 16, 2018. Prior to joining Howmet, from 2015 to April 2018, he was Vice President of Supply Chain for General Electric’s Power Division. Mr. Chanatry served as General Manager of Supply Chain for General Electric Appliances from 2013 to 2015; and General Electric Aviation Systems from 2009 to 2013. Prior to his leadership roles at General Electric Power, General Electric Appliances and General Electric Aviation Systems, Mr. Chanatry held numerous positions within the General Electric Aviation & Aerospace divisions, as well as at Lockheed Martin from 1983 to 2009.

Ken Giacobbe, 58, Executive Vice President and Chief Financial Officer. Mr. Giacobbe was initially elected Executive Vice President and Chief Financial Officer of Howmet effective November 1, 2016. Mr. Giacobbe joined Howmet in 2004 as Vice President of Finance for Global Extruded Products, part of Alcoa Forgings and Extrusions. He then served as Vice President of Finance for the Company’s Building and Construction Systems business from 2008 until 2011. In 2011, he assumed the role of Group Controller for the Engineered Products and Solutions segment. From January 2013 until October 2016, Mr. Giacobbe served as Chief Financial Officer of the Engineered Products and Solutions segment. Before joining Howmet, Mr. Giacobbe held senior finance roles at Avaya and Lucent Technologies.

Lola F. Lin, 49, Executive Vice President, Chief Legal and Compliance Officer and Secretary. Ms. Lin was initially elected Executive Vice President, Chief Legal Officer and Secretary of Howmet effective June 28, 2021. Prior to joining Howmet, she served as Senior Vice President and General Counsel of Airgas, Inc. from 2016 to May 2021. Prior to her time at Airgas, Ms. Lin held various legal roles at Air Liquide USA LLC from 2007 to 2016, including as Vice President and Deputy General Counsel. Prior to her roles at Airgas Inc. and Air Liquide, Ms. Lin held roles at Dell Inc., Sutherland Asbill & Brennan LLP and Locke Liddell & Sapp LLP.

Neil E. Marchuk, 66, Executive Vice President, Chief Human Resources Officer and Interim President, Engineered Structures. Mr. Marchuk was initially elected Executive Vice President and Chief Human Resources Officer of Howmet effective March 1, 2019. Prior to joining Howmet, from January 2016 to February 2019, he was Executive Vice President and Chief Human Resources Officer at Adient, an automotive manufacturer. From July 2006 to May 2015, Mr. Marchuk was Executive Vice President of Human Resource at TRW Automotive, and served as TRW’s Vice President, Human Resources from September 2004 to July 2006. Prior to joining TRW, from December 2001 to August 2004, Mr. Marchuk was Director, Corporate Human Resources for E.I. Du Pont De Nemours and Company (“E.I. Du Pont”). From September 1999 to November 2001, Mr. Marchuk was Director, Global HR Delivery for E.I. Du Pont. From February 1999 to August 1999, Mr. Marchuk served E.I. Du Pont as its Global HR Director, Global Services Division.

John C. Plant, 70, Executive Chairman and Chief Executive Officer. Mr. Plant was appointed Howmet's Chief Executive Officer effective October 14, 2021, and was Co-Chief Executive Officer from April 2020 to October 2021. From February 2019 to April 2020, he was the Chief Executive Officer of Arconic Inc., as the Company was then known prior to its separation. He has served as chairman of Howmet's Board of Directors since October 2017 and as a member of the Board since February 2016. Mr. Plant previously served as Chairman of the Board, President and Chief Executive Officer of TRW Automotive from 2011 to 2015, and as its President and Chief Executive Officer from 2003 to 2011. TRW Automotive was acquired by ZF Friedrichshafen AG in May 2015. Mr. Plant was a co-member of the Chief Executive Office of TRW Inc. from 2001 to 2003 and an Executive Vice President of TRW from 1999 (when the company acquired Lucas Varity) to 2003. Prior to TRW, Mr. Plant was President of Lucas Varity Automotive and managing director of the Electrical and Electronics division from 1991 through 1997.

Barbara L. Shultz, 50, Vice President and Controller. Ms. Shultz was initially elected Vice President and Controller of Howmet effective May 25, 2021. Ms. Shultz joined Howmet in 2005 and served in numerous financial accounting positions until 2012 when she was appointed Director of Finance for the Company's Alcoa Wheel and Transportation Products business. She then served as Director of Compliance for the Company's then Structures business from July 2015 to February 2019, Director of Compliance from February 2019 to June 2020, and Assistant Controller from June 2020 to May 2021. Prior to joining Howmet, Ms. Shultz held several roles at PricewaterhouseCoopers LLP from 1995 to 2005.

Item 1A. Risk Factors.

Howmet's business, financial condition and results of operations may be impacted by a number of factors. In addition to the factors discussed elsewhere in this report, the following risks and uncertainties could materially harm the Company's business, results of operations, financial condition and/or cash flows, including causing its actual results to differ materially from those projected in any forward-looking statements. The following list of risk factors is not all-inclusive or necessarily in order of importance.

Additional risks and uncertainties not presently known to Howmet or that Howmet currently deems immaterial may also adversely affect the Company materially in future periods.

Risks Related to Our Business and Operations

The markets for Howmet's products are cyclical, and such markets and Howmet's operations are influenced by a number of factors, including global economic conditions.

Howmet is subject to cyclical fluctuations in global economic conditions and lightweight metals end-use markets. Howmet sells many products to industries that are cyclical, such as the aerospace and commercial transportation industries, and the demand for our products is sensitive to, and quickly impacted by, demand for the finished goods manufactured by our customers in these industries, which may change as a result of changes in regional or worldwide economies, currency exchange rates, interest rates, inflation, energy prices or other factors beyond our control. In particular, Howmet derives a significant portion of our revenue from products sold to the aerospace industry, which is cyclical and reflective of changes in the general economy. The commercial aerospace industry is historically driven by the demand from commercial airlines for new aircraft and spare parts. Demand for commercial aircraft and spare parts is influenced by airline industry profitability, trends in airline passenger traffic domestically and globally, the state of U.S., regional and world economies, the ability of aircraft purchasers to obtain required financing and numerous other factors. Changes and uncertainties in the timing and level of future aircraft production by OEMs may cause our future results to differ from prior periods due to changes in the Company's product mix. The defense aerospace cycle is highly dependent on U.S. and foreign government funding. It is also impacted by the effects of terrorism, a changing global geopolitical environment, U.S. foreign policy, whether older military aircraft are retired, and technological improvements to new engines and airframes. The demand for Howmet's commercial transportation products is driven by the number of vehicles produced by commercial transportation manufacturers. Commercial transportation sales and production are affected by many factors, including the age of the vehicle fleet, labor relations issues, fuel prices, regulatory requirements, government initiatives, trade agreements, and levels of competition.

The ongoing conflict between Russia and Ukraine has impacted global energy markets, particularly in Europe, leading to high volatility and increasing prices for crude oil, natural gas and other energy supplies. Higher energy costs result in increases in operating expenses at our manufacturing facilities, in the expense of shipping raw materials to our facilities, and in the expense of shipping products to our customers. The costs of certain raw materials (including, but not limited to, nickel, titanium, aluminum, cobalt, and rhenium) necessary for the manufacture of Howmet's products and other manufacturing and operating costs are influenced by market forces and governmental constraints, including inflation, supply and demand, and shortages, and could be further influenced by export limits, sanctions, new or increased import duties, and countervailing or anti-dumping duties. For example, as the Russia-Ukraine conflict continues, global titanium prices may continue to fluctuate or increase. Our customers' failure to return titanium revert (reusable scrap) to Howmet can result in an increase of the amount of titanium purchased at inflated costs. Recent high levels of inflation worldwide and in the United States has resulted in an increase in the costs of materials and labor. While we generally attempt to pass along higher raw material and energy costs to our customers through contractual agreements in the form of price increases, there can be a delay between an increase in our costs and our ability to increase the prices of our products. Additionally, we may not be able to increase the prices of our products due to competitive pricing pressure and other factors. If the Company is unable to offset significant cost increases through customer price increases, productivity improvements, cost reduction or other programs, Howmet's business, operating results or financial condition could be materially adversely affected.

Howmet is unable to predict the future course of industry variables, the strength of the U.S., regional or global economies, or the effects of government actions. Negative economic conditions, such as a major economic downturn or recession, continued inflation, or disruptions in the financial markets, could have a material adverse effect on Howmet's business, financial condition or results of operations.

A material disruption of, or manufacturing difficulties at, Howmet's manufacturing operations could adversely affect Howmet's business.

If Howmet's operations, particularly one of its key manufacturing facilities, were to be disrupted, including because of significant equipment failures, natural disasters, power outages, fires, explosions, terrorism, theft, sabotage, adverse weather conditions, public health crises, labor disputes, labor shortages or other reasons, Howmet may be unable to effectively meet its obligations to,

or demand from, its customers. In addition, the manufacture of many of Howmet’s products is a complex process. Manufacturing problems arising from equipment failure or malfunction, inadvertent failure to follow regulatory or customer specifications and procedures, including those related to quality or safety, and problems with raw materials could have

an adverse impact on the Company's ability to fulfill orders or meet product quality or performance requirements, which may result in negative publicity and damage to our reputation, adversely impacting product demand and customer relationships. Interruptions in production capability could increase Howmet's costs and reduce its sales, including causing the Company to incur costs for premium freight, make substantial capital expenditures, or purchase alternative material at higher costs to fulfill customer orders. Additionally, a delivery delay by us due to production interruptions could subject us to liability from customer claims that such delay resulted in losses to the customer. Furthermore, product manufacturing or performance issues could result in recalls, customer penalties, contract cancellation and product liability exposure in addition to a material adverse effect on our business, financial condition or results of operations. Because of approval, license and qualification requirements applicable to manufacturers and/or their suppliers, sources of alternatives to mitigate manufacturing disruptions may not be readily available to Howmet or its customers.

Howmet is dependent on a limited number of suppliers for materials and services essential to our operations, including raw materials, and supply chain disruptions could have a material adverse effect on our business.

Howmet has supply arrangements with suppliers for various materials and services, including raw materials. We maintain annual or long-term contracts for a majority of our supply requirements, and, for the remainder, we depend on spot purchases. There can be no assurance that we will be able to renew, or obtain replacements for, any of our long-term contracts when they expire on terms that are as favorable as our existing agreements, or at all. For certain raw materials and services, we depend on a number of limited source or sole source suppliers, such as for titanium sponge and specialized metal alloys. Supply constraints could impact our production or force us to purchase materials and other supplies from alternative sources, which may not be available in sufficient quantities or at prices that are favorable to us. Howmet could also have exposure if a key supplier is unable to deliver sufficient quantities of a necessary material on a timely basis. Several of our suppliers have had constraints on their ability to supply Howmet with its full requirements due to lack of capacity, labor shortages and/or material availability. If such constraints continue or escalate, it could result in an adverse impact on our business. Because of approval, license and qualification requirements applicable to manufacturers and/or their suppliers, sources of alternatives to mitigate supply disruptions may not be readily available to Howmet. Any delay in supply from these suppliers could prevent us from meeting customer demand for our products. The availability and costs of certain raw materials necessary for the production of Howmet's products may also be influenced by private or government entities, including as a result of changes in geopolitical conditions or regulatory requirements, labor relations between the producers and their work forces, and unstable governments in exporting nations. Any of the foregoing supply chain disruptions or those due to trade barriers, business continuity, quality, cyberattacks, transportation, delivery or logistics challenges, weather, natural disaster, war, or pandemic events could adversely affect Howmet's business, results of operations or financial condition.

Howmet's business depends, in part, on its ability to successfully meet program demand, production targets and commitments.

Howmet is currently under contract to supply components for a number of existing and new commercial, general aviation, military aircraft and aircraft engine programs. Many of these contracts contemplate production increases over the next several years. If Howmet fails to meet production targets and commitments, or encounters difficulty or unexpected costs in meeting such levels, it could have a material adverse effect on the Company's reputation, business, operating results or financial condition. Similarly, to the extent demand for our products increases rapidly and significantly in future periods, we may not be able to ramp up production quickly enough to meet the demand, which could result in lost opportunities for growth and adversely affect our business, financial condition, results of operations or competitive position.

Failure to attract and retain a qualified workforce and key personnel or to provide adequate succession planning could adversely affect Howmet's operations and competitiveness.

Howmet's global operations require qualified and skilled personnel with relevant industry and technical experience. Shortages in certain skills, in areas such as engineering, manufacturing and technology, and other labor market inadequacies have created more competition for talent. A sustained labor shortage, lack of skilled labor, increased turnover, labor inflation, or increase in general labor costs could lead to higher labor, recruiting or training costs to attract and retain personnel. If the Company fails to attract, train, develop and retain a global workforce with the skills and in the locations we need to operate and grow our business, our business and operations could be adversely impacted. Furthermore, the continuity of key personnel and the preservation of institutional knowledge are vital to the success of the Company's growth and business strategy. The loss of key personnel could significantly harm Howmet's business, and any unplanned turnover or failure to develop adequate succession plans for key positions could deplete the Company's institutional knowledge base, result in loss of technical or other expertise, delay or impede the execution of the Company's business plans and erode Howmet's competitiveness.

Howmet could be adversely affected by the loss of key customers or significant changes in the business or financial condition of its customers.

Howmet has long-term contracts with a significant number of its customers, some of which are subject to renewal, renegotiation or re-pricing at periodic intervals or upon changes in competitive supply conditions. Howmet's failure to successfully renew,

renegotiate or favorably re-price such agreements, or a material deterioration in or termination of these customer relationships, could result in a reduction or loss in customer revenue. Additionally, a significant downturn or deterioration in the business or financial condition or loss of a key customer supplied by Howmet could adversely affect Howmet's financial results. Howmet's customers may experience delays in the launch of new products, labor strikes, diminished liquidity or credit unavailability, weak demand for their products, decreases in production rates due to regulatory investigations or otherwise, supply chain constraints or other difficulties in their businesses. Howmet's customers may also change their business strategies or modify their business relationships with Howmet, including to reduce the amount of Howmet's products they purchase, to switch to alternative suppliers, or to enter into the markets themselves to compete with Howmet. If Howmet's customers reduce, terminate or delay purchases from Howmet due to the foregoing factors or otherwise and Howmet is unsuccessful in enforcing its contract rights or replacing such business in whole or in part or replaces it with less profitable business, our financial condition and results of operations may be adversely affected.

Howmet's products are used in a variety of military applications, including military aircraft. Although many of the military programs in which Howmet participates extend several years, changes in military strategy, policy and priorities, or reductions in defense spending, may affect current and future funding of these programs and could reduce the demand for Howmet's products, which could adversely affect Howmet's business, financial condition or results of operations.

Information technology system failures, cyberattacks and security breaches may threaten the integrity of Howmet's intellectual property and other sensitive information, disrupt its business operations, and result in reputational harm and other negative consequences having a material adverse effect on its financial condition and results of operations.

Howmet's information technology systems could be subject to damage or interruption from power outages; computer network and telecommunications failures; cyberattacks; catastrophic events, such as fires, floods, earthquakes, tornadoes, hurricanes, acts of war or terrorism; and usage errors by employees. If Howmet's information technology systems are damaged or cease to function properly, the Company may have to make a significant investment to fix or replace them, and Howmet may suffer loss of critical data and interruptions or delays in its operations. Any material disruption in the Company's information technology systems, or delays or difficulties in implementing or integrating new systems or enhancing current systems, could have an adverse effect on Howmet's business, financial condition or results of operations.

Increased global cybersecurity vulnerabilities, threats and more sophisticated and targeted cyberattacks pose a risk to the security of our systems and networks, and the confidentiality, availability and integrity of our data, as well as those of our customers, suppliers and other counterparties. The Company believes that it faces threats of cyberattacks due to the industries it serves, the locations of its operations, and its technological innovations. The Company has experienced cybersecurity attacks in the past, including breaches of its information technology systems in which information was taken, and may experience them in the future, potentially with more frequency or sophistication. Although past attacks did not result in known losses of any critical data or have a material impact on Howmet's financial condition or results of operations, the scope and impact of any future incident cannot be predicted. While the Company continually works to safeguard its systems and mitigate potential risks, there is no assurance that such actions will be sufficient to prevent cybersecurity incidents that manipulate or improperly use the Company's systems or networks, compromise confidential, personal or otherwise protected information, destroy or corrupt data, block access to its systems, or otherwise disrupt its operations. The occurrence of such events could negatively impact Howmet's reputation and its competitive position and could result in litigation with third parties, regulatory action, loss of business, potential liability and increased remediation costs, any of which could have a material adverse effect on its financial condition and results of operations.

Howmet faces significant competition, which may have an adverse effect on profitability.

As discussed in "Competitive Conditions" in [Part I, Item 1](#) (Business) of this report, the markets for Howmet's products are highly competitive. Howmet's competitors include a variety of both U.S. and non-U.S. companies in our product markets, which could include existing customers. New entrants in our markets, new product offerings, new and/or emerging technologies in the marketplace, or new facilities may compete with or replace Howmet products. The willingness of customers to accept alternative solutions for the products sold by Howmet, pricing pressure from competitors, and technological advancements or other developments by or affecting Howmet's competitors or customers could adversely affect Howmet's business, financial condition or results of operations. Howmet's competitive position and future performance depends, in part, on the Company's ability to develop and innovate products, deploy technology initiatives and implement advanced manufacturing technologies. While Howmet intends to continue to develop innovative new products and services, it may not be able to successfully differentiate its products or services from those of its competitors or achieve and maintain technological advantages.

In addition, Howmet may face increased competition due to industry consolidation. Companies that are strategic partners in some areas of Howmet's business may acquire or form alliances with Howmet's competitors, thereby reducing their business with Howmet. Industry consolidation may result in stronger competitors who are better able to obtain favorable terms from suppliers or

who are better able to compete as sole-source vendors for customers. Consolidation within Howmet's customer base may result in customers who are better able to exert leverage in negotiating prices and other terms of sale, or may lead to

reduced demand for Howmet's products if a combined entity replaces Howmet with a Howmet competitor with which it had prior relationships. The result of these circumstances could have a material adverse effect on Howmet's business, operating results and financial condition.

Howmet's global operations expose Howmet to risks that could adversely affect its business, financial condition, results of operations, cash flows or the market price of its securities.

Howmet has operations or activities in numerous countries and regions outside the United States, including Europe, Mexico, China, and Japan. As a result, Howmet's global operations are affected by economic, political, legal, and other conditions in the United States and foreign countries in which Howmet does business, including (i) economic and commercial instability risks, including changes in local government laws, regulations and policies, such as those related to tariffs, sanctions and trade barriers, taxation, exchange controls, employment regulations and repatriation of assets or earnings; (ii) geopolitical risks such as political instability, civil unrest, expropriation, nationalization of properties by a government, imposition of sanctions, and renegotiation or nullification of existing agreements; (iii) wars such as those in Ukraine and the Middle East, cyber threats, terrorist activities or other dangerous conditions; (iv) compliance with applicable U.S. and foreign laws, including antitrust and competition regulations, the Foreign Corrupt Practices Act and other anti-bribery and corruption laws, and laws concerning trade, including the International Traffic in Arms Regulations, the Export Administration Regulations, and the sanctions, regulations and embargoes administered by the U.S. Department of Treasury's Office of Foreign Assets Control; (v) aggressive, selective or lax enforcement of laws and regulations by foreign governmental authorities; (vi) exposure to fluctuations in foreign currency exchange rates and interest rates, as well as inflation, economic factors, and currency controls in the countries in which it operates; and (vii) major public health issues, such as an outbreak of a pandemic or epidemic. Although the effect of any of the foregoing factors is difficult to predict, any one or more of them could adversely affect Howmet's business, financial condition or results of operations.

Risks Related to Liquidity and Capital Resources

A decline in Howmet's financial performance or outlook could negatively impact its credit profile, its access to capital markets and its borrowing costs.

A decline in the Company's financial performance or outlook due to internal or external factors, such as macroeconomic conditions, a deterioration in the Company's financial metrics or a contraction in the Company's liquidity, could adversely affect the Company's credit ratings and its access to the capital or credit markets on terms and conditions that the Company finds acceptable. A downgrade of Howmet's credit ratings could result in negative consequences, including limiting its ability to obtain future financing on favorable terms, if at all, increasing borrowing costs and credit facility fees, triggering collateral postings, and adversely affecting the market price of Howmet securities. For information on our credit ratings, see "Liquidity and Capital Resources" in [Part II, Item 7](#) (Management's Discussion and Analysis of Financial Condition and Results of Operations). Limitations on Howmet's ability to access global capital markets, a reduction in Howmet's liquidity or an increase in borrowing costs could materially and adversely affect Howmet's ability to maintain or grow its business, which in turn may adversely affect its financial condition, liquidity and results of operations.

An adverse decline in the liability discount rate, lower-than-expected investment return on pension assets and other factors could adversely affect Howmet's results of operations or amount of pension funding contributions in future periods.

Howmet's results of operations may be negatively affected by the amount of expense Howmet records for its pension and other postretirement benefit plans, by reductions in the fair value of plan assets and by other factors. Howmet calculates income or expense for its plans using actuarial valuations in accordance with accounting principles generally accepted in the United States of America. These valuations reflect assumptions about financial market and other economic conditions, which may change due to changes in key economic indicators. The most significant year-end assumptions used by Howmet to estimate pension or other postretirement benefit income or expense for the following year are the discount rate applied to plan liabilities and the expected long-term rate of return on plan assets. In addition, Howmet is required to make an annual measurement of plan assets and liabilities, which may result in a significant charge to shareholders' equity. For a discussion regarding how Howmet's financial statements can be affected by pension and other postretirement benefits accounting policies, see "Critical Accounting Policies and Estimates—Pension and Other Postretirement Benefits" in [Part II, Item 7](#) (Management's Discussion and Analysis of Financial Condition and Results of Operations) and [Note G](#) to the Consolidated Financial Statements in [Part II, Item 8](#).

Adverse capital market conditions could result in reductions in the fair value of plan assets and increase the Company's liabilities related to such plans. Additionally, unpredictable future declines in the discount rate or lower-than-expected investment returns on plan assets could lead to a decline in the plans' funded status and result in higher than expected pension contributions. The foregoing factors may adversely affect the Company's financial condition, liquidity and results of operations.

Dividends and share repurchases fall within the discretion of our Board of Directors and depend on a number of factors.

Share repurchases and the declaration of dividends fall within the discretion of Howmet's Board of Directors, and the Board's decision regarding such matters depends on many factors, including Howmet's financial condition, earnings, capital requirements, debt service obligations, covenants associated with certain of the Company's debt obligations, industry practice, legal requirements, regulatory constraints and other factors that the Board deems relevant. There can be no assurance that the Company will declare dividends or repurchase stock in the future in any particular amounts, or at all.

Risks Related to Legal and Regulatory Matters

Howmet may be exposed to significant legal proceedings, investigations or changes in U.S. federal, state or foreign law, regulation or policy.

The manufacture and sale of our products expose Howmet to potential product liability, personal injury, property damage and related claims. In the event that a Howmet product fails to perform as expected, regardless of fault, or is used in an unexpected manner, and such failure or use results in, or is alleged to result in, bodily injury and/or property damage or other losses, Howmet may be subject to product liability lawsuits and other claims, or may participate in a recall or other corrective action involving such product. In addition, if a Howmet product is perceived to be defective or unsafe, Howmet's sales could decrease, its reputation could be adversely impacted and Howmet could be exposed to government investigations or regulatory enforcement actions. Howmet is also subject to a variety of global legal and regulatory compliance risks in connection with its business and products. These risks include, among other things, potential claims, class action lawsuits or compliance issues, including those relating to securities laws, employment laws, intellectual property rights, cyber, security and privacy, insurance, commercial matters, antitrust and competition, human rights, third-party relationships, ESG (including climate-related/sustainability and other) rules and regulations, supply chain operations and the manufacture and sale of products. An adverse outcome in one or more of proceedings or investigations, or unfavorable changes in laws, regulations or policies, or other contingencies that the Company cannot predict with certainty, could have a material adverse effect on the Company's financial condition, results of operations or cash flows, including reputational harm, loss of customers and substantial monetary damages and/or non-monetary penalties. For additional information regarding the legal proceedings involving the Company, see [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#).

Our business may be adversely affected if we fail to comply with government contracting regulations.

We derive a portion of our revenue from sales to U.S. and foreign governments and their respective agencies. Such contracts are subject to various procurement laws and regulations and contract provisions relating to their formation, administration and performance. New laws and regulations or changes to existing ones (including, but not limited to, those related to subcontracting, cybersecurity and specialty metals) can increase our risks and/or costs. Failure to comply with these laws, regulations or provisions in our government contracts could result in the imposition of various civil and criminal penalties, termination of contracts, forfeiture of profits, suspension of payments, increased pricing pressure or suspension from future government contracting. If our government contracts are terminated, if we are suspended from government work, or if our ability to compete for new contracts is adversely affected, our financial condition and results of operation could be adversely affected.

Howmet may face challenges to its intellectual property rights which could adversely affect the Company's reputation, business and competitive position.

Howmet owns important intellectual property, including patents, trademarks, copyrights and trade secrets. The Company's intellectual property plays an important role in maintaining Howmet's competitive position in a number of the markets that the Company serves. Howmet's competitors may develop technologies that are similar or superior to Howmet's proprietary technologies, or design around the patents Howmet owns or licenses. Despite its controls and safeguards, Howmet's technology may be misappropriated by its employees, its competitors or other third parties. The pursuit of remedies for any misappropriation of Howmet intellectual property is expensive and the ultimate remedies may be deemed insufficient. Further, in jurisdictions where the enforcement of intellectual property rights is less robust, the risk of misappropriation of Howmet intellectual property increases, despite efforts the Company undertakes to protect it. Developments or assertions by or against Howmet relating to intellectual property rights, and any inability to protect or enforce Howmet's rights sufficiently, could adversely affect Howmet's business and competitive position.

Unanticipated changes in Howmet's tax provisions or exposure to additional tax liabilities could affect Howmet's future profitability.

Howmet is subject to income taxes in both the United States and various non-U.S. jurisdictions. Its domestic and international tax liabilities are dependent upon the distribution of income among these different jurisdictions. Changes in applicable domestic or foreign tax laws and regulations, including enactment of the Organization for Economic Cooperation and Development's Pillar 2

framework, or their interpretation and application, including the possibility of retroactive effect, could affect the Company's tax expense and profitability. Howmet's tax expense includes estimates of additional tax that may be incurred for

tax exposures and reflects various estimates and assumptions. The assumptions include assessments of future earnings of the Company that could impact the valuation of its deferred tax assets. The Company's future results of operations could be adversely affected by changes in the effective tax rate as a result of a change in the mix of earnings in countries with differing statutory tax rates, changes in the overall profitability of the Company, changes in tax legislation and rates, changes in generally accepted accounting principles, changes in the valuation of deferred tax assets and liabilities, the results of tax audits and examinations of previously filed tax returns or related litigation and continuing assessments of its tax exposures.

Labor disputes and other employee relations issues could adversely affect Howmet's business, financial condition or results of operations.

A significant portion of Howmet's employees are represented by labor unions in the United States and other countries under various collective bargaining agreements, each with varying durations and expiration dates. For more information, see "Employees" in [Part I, Item 1](#) (Business) of this report. Howmet may not be able to negotiate successor collective bargaining agreements upon expiration without a risk of labor disputes, including strikes or work stoppages, or we may be unable to renegotiate such contracts on favorable terms. Labor organizations may attempt to organize groups of additional employees from time to time, and potential changes in labor laws could make it easier for them to do so. Howmet may also be subject to general country strikes or work stoppages unrelated to its business or collective bargaining agreements. If we experience any extended interruption of operations at any of our facilities as a result of labor disputes, strikes or other work stoppages, our business, financial condition or results of operations could be adversely affected.

Howmet is exposed to environmental, health and safety risks and is subject to a broad range of health, safety and environmental laws and regulations which may result in substantial costs and liabilities.

Howmet's operations worldwide are subject to numerous complex and increasingly stringent health, safety and environmental laws and regulations. The costs of complying with such laws and regulations, as well as participation in assessments and cleanups of sites, and internal voluntary programs, have been, and in the future could be, significant. Environmental matters for which Howmet may be liable may arise in the future at its present sites, at sites owned or operated by its predecessors or affiliates, at sites that it may acquire in the future, or at third-party sites used by Howmet, its predecessors or affiliates for material and waste handling and disposal. Compliance with health, safety and environmental laws and regulations, including remediation obligations, may impact Howmet's results of operations or liquidity in a particular period.

In addition, the industrial activities conducted at Howmet's facilities present a significant risk of injury or death to our employees or third parties that may be on site. Our operations are subject to regulation by various federal, state and local agencies in the United States, including the Occupational Safety and Health Administration, and regulation by foreign government entities abroad responsible for employee health and safety. Material liabilities relating to injury, death or other workers' compensation claims could have a material adverse effect on our results of operations and financial condition or result in negative publicity and/or significant reputational harm.

Howmet may be affected by global climate change or by legal, regulatory, customer or supplier responses to such change.

Increased concern over climate change has led to new and proposed legislative and regulatory initiatives, such as cap-and-trade systems and additional limits on emissions of greenhouse gases, which in turn may trigger customer decarbonization requirements. New or revised laws, regulations and policies in this area and customer decarbonization requirements could directly and indirectly affect Howmet and its customers and suppliers, including by increasing the costs of production or impacting demand for certain products, which could result in an adverse effect on our financial condition, results of operations and cash flows. Additionally, Howmet utilizes natural gas, electricity and other fuels to operate its facilities. Significant increased energy costs and/or costs to transition to renewable energy sources, as a result of new laws, such as carbon pricing or product energy efficiency requirements, or as a result of customer requirements, could be passed along to the Company and its customers and suppliers. Compliance with any new or more stringent laws or regulations, or stricter interpretations of existing laws, could require additional expenditures by the Company or its customers or suppliers.

Physical risks associated with climate change may result in an increase of the exposure to, and impact of, events with damage due to flooding, extreme winds and extreme precipitation for Howmet locations, suppliers or customers. Prolonged periods of drought may result in wildfires and/or restrictions on process water use. These climate-related impacts may have an adverse effect on production capacity of Howmet sites, suppliers and customers. These types of incidents could have a material adverse effect on our results of operations and financial condition.

With respect to the various transaction agreements that the Company entered into in connection with its separation transactions, if the counterparties fail to meet their obligations or if we have material indemnification obligations under such agreements, our business, results of operations and financial condition may be materially adversely affected.

In connection with our separation transactions, we entered into various agreements with Arconic Corporation and Alcoa Corporation, including respective Separation and Distribution agreements pursuant to which Arconic Corporation and Alcoa

Corporation agreed to indemnify us for certain liabilities, and we agreed to indemnify those parties for certain liabilities. We rely on these parties to satisfy their performance and payment obligations under these agreements. If either party is unable or unwilling to satisfy its obligations under its applicable agreements, we could incur operational difficulties and/or material losses. The indemnities that we are required to provide Alcoa Corporation and Arconic Corporation under these agreements are currently not material. If either Alcoa Corporation or Arconic Corporation, as applicable, is not able to fully satisfy its indemnification obligations to us, we may be required to bear such losses. Each of these risks could negatively affect our business, results of operations and financial condition.

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity

Cybersecurity is a critical component of the Company's overall enterprise risk management program. Howmet has implemented a framework of principles, policies and technology designed to protect our systems and data from cybersecurity threats. The Company's Board of Directors (the "Board"), through its Cybersecurity Committee, is actively engaged in overseeing and reviewing the Company's cybersecurity programs and risk management. Although past cybersecurity incidents did not have a material impact on the Company, including our strategy, financial condition or results of operations, the scope and impact of any future cybersecurity threat or incident cannot be predicted. See [Part I, Item 1A](#). (Risk Factors) for more information on how material cybersecurity incidents may impact the Company.

Howmet has implemented a multi-faceted cybersecurity risk management framework, which includes progressing toward achievement of the Cybersecurity Maturity Model Certification to certify the Company's compliance with certain cybersecurity standards published by the National Institute of Standards and Technology. We deploy and operate preventive and detective controls and processes to mitigate cybersecurity threats, including monitoring our network for known vulnerabilities and signs of unauthorized attempts to access our data and systems. Our approach includes conducting internal vulnerability assessments, external penetration testing and attack simulation. In addition, the Company subscribes to third-party managed security service providers that continuously monitor the Company's systems to assist with early cybersecurity threat detection and protection. Howmet conducts cybersecurity risk assessments of key vendors and other counterparties for any potential risks. Risk-based action plans are further developed to take into account evolving threats, which result in recommendations for new protocols and infrastructure. The Company has a robust program of employee education on the prevention of unauthorized access to Company information and systems.

The Company's cybersecurity risk management is integrated in our overall risk management processes. Our enterprise risks, including cybersecurity risks, are reviewed on a biannual basis. The review involves participation and engagement by, among others, subject matter experts like the Company's Chief Information Security Officer ("CISO") and Chief Information Officer ("CIO"), the presidents of the Company's business segments, and executive management. Mitigation plans are deployed across the Company with cross-functional collaboration as applicable. Enterprise risk management is reviewed with the Board annually.

The Cybersecurity Committee, which originated in 2015 as a dedicated cybersecurity subcommittee of the Audit Committee, assists the Board in its oversight of the Company's cybersecurity programs and risks. Its responsibilities include reviewing the state of the Company's cybersecurity, its strategy, policies, and procedures to mitigate cybersecurity risks, and any significant cybersecurity incidents. The Committee also considers the cybersecurity threat landscape and the impact of emerging cybersecurity developments and regulations that may affect Howmet. The Cybersecurity Committee currently comprises two members and meets at least quarterly with members of management, including the CISO and CIO. The Cybersecurity Committee may, from time to time, invite third-party advisors and experts as it deems appropriate. Pursuant to guidelines adopted by the Cybersecurity Committee, management is required to report immediately to the Chair of the Cybersecurity Committee upon the occurrence of certain cybersecurity incidents and ransomware demands. The Cybersecurity Committee reports to the full Board after each of its meetings and as needed regarding the cybersecurity risks, incidents and other matters reviewed and considered by the Committee.

The Company's CISO leads management's assessment, prevention and management of cybersecurity risks. The CISO reports to the CIO who has responsibility for the usability, implementation and management of our information and computing systems. Both bring to their roles extensive experience in information technology and cybersecurity:

- The Company's CISO joined the Company in 2022. The CISO has over 20 years of experience in information technology, cybersecurity and physical security management, including as Cybersecurity Operations Director at United States Steel Corporation (2020-2022); Director, Global Information Security and Compliance at Kennametal, Inc. (2018-2020); and Global Chief Information Security Officer/HIPAA Security Officer at Westlake Chemical (2013-2017). The CISO holds a Bachelor of Sciences degree in Information Systems Management from Carlow University and a Master of Sciences degree in Information Systems from Robert Morris University, and is a Certified Systems Security Professional.
- The Company's CIO joined the Company in 2021. The CIO has over 20 years of experience in information technology, including, most recently, as Vice President Global IT and Chief Information Officer at Varroc Lighting Systems (2018-2021) and Chief Information Officer at AM General LLC (2016-2018). The CIO holds a Bachelor of Engineering degree in Industrial Engineering from Universidad de Lima.

In the event of a potential material cybersecurity incident or ransomware demand, Howmet has adopted a policy to respond to such event, which includes protocols and procedures to, among other things, escalate the incident or demand, form a core cross-functional response leadership team (including the CISO and CIO) to assess severity, formulate response and remediation, and determine any required reporting or notifications.

Item 2. Properties.

Howmet's principal office and corporate center is located at 201 Isabella Street, Suite 200, Pittsburgh, Pennsylvania 15212-5872. In the second quarter of 2022, the Company sold this property and entered into a 12-year lease with the purchaser for a portion of the property.

Howmet leases some of its facilities; however, it is the opinion of management that the leases do not materially affect the continued use of the properties or the properties' values.

Howmet believes that its facilities are suitable and adequate for its operations. Although no title examination of properties owned by Howmet has been made for the purpose of this report, the Company knows of no material defects in title to any such properties. See [Note A](#) and [Note N](#) to the Consolidated Financial Statements in [Part II, Item 8](#) of this Form 10-K for additional information.

Howmet has active plants and holdings in various geographic areas. See the table regarding the Company's principal facilities in [Part I, Item 1](#) (Business).

Item 3. Legal Proceedings.

In the ordinary course of its business, Howmet is involved in a number of lawsuits and claims, both actual and potential. For a discussion of legal proceedings, see [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) of this Form 10-K.

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.

The Company's common stock is listed on the New York Stock Exchange under the symbol "HWM."

The number of holders of record of common stock was 8,883 as of February 12, 2024.

Stock Performance Graph

The following graph compares the most recent five-year performance of the Company's common stock with (1) the Standard & Poor's ("S&P") 500[®] Index, (2) the S&P 500[®] Industrials Index, a group of 78 companies categorized by Standard & Poor's as active in the "industrials" market sector, and (3) the S&P Aerospace & Defense Index, which comprises General Dynamics Corporation, Howmet Aerospace Inc., Huntington Ingalls Industries, L3Harris Technologies, Inc., Lockheed Martin Corporation, Northrop Grumman Corporation, RTX Corporation, Textron Inc., The Boeing Company, and Transdigm Group Inc.

The graph assumes, in each case, an initial investment of \$100 on December 31, 2018, and the reinvestment of dividends. The historical prices of the Company presented in the graph and table have been adjusted to reflect the impact of the April 2020 Arconic Inc. Separation Transaction. The graph, table and related information shall not be deemed to be "filed" with the SEC, nor shall such information be incorporated by reference into future filings under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates it by reference into such filing.

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As of December 31,	2018	2019	2020	2021	2022	2023
Howmet Aerospace Inc.	\$ 100.00	\$ 183.89	\$ 222.71	\$ 248.70	\$ 308.80	\$ 425.00
S&P 500 [®] Index	100.00	131.49	155.68	200.37	164.08	207.00
S&P 500 [®] Industrials Index	100.00	129.37	143.68	174.02	164.49	194.00
S&P Aerospace & Defense Index	100.00	130.33	109.39	123.86	145.37	155.00

Issuer Purchases of Equity Securities

The following table presents information with respect to the Company's open-market repurchases of its common stock during the quarter ended December 31, 2023:

Period	Total Number of Shares Purchased	Average Price Paid Per Share ⁽¹⁾	Total Number of Shares Purchased as Part of Publicly Announced Repurchase Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in millions) ⁽¹⁾⁽²⁾
October 1 - October 31, 2023	—	\$ —	—	\$ 797
November 1 - November 30, 2023	381,400	\$ 52.44	381,400	\$ 777
December 1 - December 31, 2023	1,531,335 ⁽³⁾	\$ 52.54	1,522,813	\$ 697
Total for quarter ended December 31, 2023	1,912,735	\$ 52.52	1,904,213	

⁽¹⁾ Excludes commissions cost.

⁽²⁾ On August 18, 2021, the Company announced that its Board of Directors authorized a share repurchase program of up to \$1,500 million of the Company's outstanding common stock. After giving effect to the share repurchases made through the fourth quarter of 2023, approximately \$697 million Board authorization remained available as of January 1, 2024. Under the Company's share repurchase program (the "Share Repurchase Program"), the Company may repurchase shares by means of trading plans established from time to time in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, block trades, private transactions, open market repurchases and/or accelerated share repurchase agreements or other derivative transactions. There is no stated expiration for the Share Repurchase Program. Under its Share Repurchase Program, the Company may repurchase shares from time to time, in amounts, at prices, and at such times as the Company deems appropriate, subject to market conditions, legal requirements and other considerations. The Company is not obligated to repurchase any specific number of shares or to do so at any particular time, and the Share Repurchase Program may be suspended, modified, or terminated at any time without prior notice.

⁽³⁾ Amount includes the surrender of 8,522 shares of Howmet common stock by a participant in the Company's stock incentive plan to the Company to satisfy the exercise price and tax withholding obligations of employee stock options at the time of exercise. These surrendered shares are not part of any Share Repurchase Programs.

Item 6. Selected Financial Data.

Reserved.

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

(dollars in millions, except share and per-share amounts)

The following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is intended to help the reader understand our results of operations and financial condition. The MD&A is provided as a supplement to, and should be read in conjunction with, our consolidated financial statements and notes thereto included in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K.

Overview

Our Business

Howmet is a global leader in lightweight metals engineering and manufacturing. Howmet's innovative, multi-material products, which include nickel, titanium, aluminum, and cobalt, are used worldwide in the aerospace (commercial and defense), commercial transportation, and industrial and other markets.

Howmet is a global company operating in 20 countries. Based upon the country where the point of shipment occurred, North America and Europe generated 70% and 23%, respectively, of Howmet's sales in 2023. In addition, Howmet has operating activities in numerous countries and regions outside of North America and Europe, including China and Japan. Governmental policies, laws and regulations, and other economic factors, including inflation and fluctuations in foreign currency exchange rates and interest rates, affect the results of operations in countries with such activities.

Management Review of 2023 and Outlook

The Company derived approximately 49% of its revenue from products sold to the commercial aerospace market for the year ended December 31, 2023 which is substantially less than the pre-pandemic 2019 annual rate of approximately 60%. Aircraft production in the commercial aerospace industry continues to recover based on increases in demand for narrow body and wide body aircraft. We expect commercial aerospace wide body demand to grow faster than narrow body demand on a production percentage basis. The timing and level of future aircraft builds by OEMs are subject to changes and uncertainties, which may cause our future results to differ from prior periods due to changes in product mix in certain segments.

In 2023, Sales increased 17% over 2022 primarily as a result of higher sales from the commercial aerospace, defense aerospace, commercial transportation, and industrial and other markets, favorable product pricing of \$105, and an increase in inflationary cost pass through of approximately \$90. Product price increases are in excess of material and inflationary cost pass through to our customers.

Income before income taxes increased 61% from 2022. Total Segment Adjusted EBITDA⁽¹⁾ increased 17% from 2022 primarily due to favorable sales in the commercial aerospace, defense aerospace, commercial transportation, and industrial and other markets as well as favorable product pricing.

Management continued its focus on liquidity and cash flows as well as improving its operating performance through profitable revenue, efficient operations, and margin enhancement. Management has also continued its intensified focus on capital efficiency. Management's focus and the related results enabled Howmet to end 2023 with a solid financial position.

The following financial information reflects certain key highlights of Howmet's 2023 results:

- Sales of \$6,640, an increase of 17% from 2022, driven by higher sales in all markets, especially the commercial aerospace market, which increased 24% from 2022;
- Net income of \$765, or \$1.83 per diluted share;
- Income before income taxes of \$975, an increase of \$369, or 61%, from 2022;
- Total Segment Adjusted EBITDA⁽¹⁾ of \$1,587, an increase of \$235, or 17%, from 2022;
- Cash on hand and restricted cash at the end of the year of \$610;
- Cash provided from operations of \$901; cash used for financing activities of \$868; and cash used for investing activities of \$215;
- Purchased approximately 5 million shares of the Company's common stock under the Share Repurchase Program for approximately \$250;

- Total debt of \$3,706, a net decrease of \$456 from 2022, reflecting repurchases and partial redemption of \$876 aggregate principal amount of the 5.125% Notes due October 2024 (the “5.125% Notes”) and drew \$400 in term loans due 2026 during 2023; and

- The Company's common stock had a closing price of \$54.12 per share as of December 29, 2023, an increase of \$40.92 per share, or 310%, since the Arconic Inc. Separation Transaction on April 1, 2020, compared to an increase of 93% for the S&P 500® Index and 91% for the S&P Aerospace & Defense Select Industry Index over the same period.

⁽¹⁾ See below in *Results of Operations for the reconciliation of Total Segment Adjusted EBITDA to Income before income taxes*.

In 2024, management projects sales to increase as we expect solid growth in the commercial aerospace market, and the Company's strong position in that market is expected to continue. Earnings per share is expected to grow as management continues to focus on revenue growth and operational performance. Cash provided from operations is expected to increase for the full year in 2024 compared with 2023, resulting from a continued focus on operating performance and on capital efficiency. Capital expenditures are expected to increase with additional investments in capacity expansions.

Results of Operations

Earnings Summary

Sales. Sales for 2023 were \$6,640 compared with \$5,663 in 2022, an increase of \$977, or 17%. The increase was primarily due to higher sales in the commercial aerospace, defense aerospace, commercial transportation, and industrial and other markets, favorable product pricing of \$105, and an increase in material cost pass through of \$90. Product price increases are in excess of inflationary pass through to our customers.

Sales for 2022 were \$5,663 compared with \$4,972 in 2021, an increase of \$691, or 14%. The increase was primarily due to higher sales in the commercial aerospace market, an increase in material cost pass through of \$225, and favorable product pricing of \$67, partially offset by lower sales in the defense aerospace market. Product price increases are in excess of inflationary pass through to our customers.

Cost of goods sold ("COGS"). COGS as a percentage of Sales was 71.9% in 2023 compared with 72.5% in 2022. The decrease was primarily due to higher volumes, favorable product pricing, and lower costs related to three plant fires, partially offset by material cost pass through and increased net headcount, primarily in the Engine Products and Fastening Systems segments, in support of expected revenue increases. The Company had total COGS insurance claims reimbursements of \$19 in 2023, partially offset by charges of \$7, related to fires that occurred in 2019 at a Fastening Systems plant in France (the "France Plant Fire") and a mechanical failure resulting in substantial heat and fire-related damage to equipment at the Company's cast house in Barberton, Ohio in the third quarter of 2022 (the "Barberton Cast House Incident"), compared to total COGS charges of \$59 in 2022, offset by partial insurance claims reimbursements of \$23, related to a fire at a Forged Wheels plant in Barberton, Ohio in mid-February 2020 (the "Barberton Plant Fire") and the France Plant Fire. The insurance claims related to these three plant fires were in excess of the insurance deductible. During the fourth quarter of 2022, the Company settled the insurance claim related to the Barberton Plant Fire. The Company is negotiating resolution of the insurance claims related to the France Plant Fire and Barberton Cast House Incident.

COGS as a percentage of Sales was 72.5% in 2022 compared with 72.3% in 2021. The increase was primarily due to increased costs related to three plant fires, as well as material cost pass through and increased net headcount, primarily in the Engine Products and Fastening Systems segments, in anticipation of future revenue increases, partially offset by higher volumes and favorable product pricing. The Company had total COGS charges of \$59 in 2022, offset by partial insurance claims reimbursements of \$23, related to the France Plant Fire, Barberton Plant Fire, and the Barberton Cast House Incident, compared to total COGS charges of \$28 in 2021, offset by partial insurance claims reimbursements of \$32, related to the France Plant Fire and the Barberton Plant Fire. The insurance claims related to these three plant fires were in excess of the insurance deductible. The downtime related to these plant fires in 2022 and 2021 reduced production levels and affected productivity at the plants.

Selling, general administrative, and other expenses ("SG&A"). SG&A expenses were \$333, or 5.0% of Sales, in 2023 compared with \$288, or 5.1% of Sales, in 2022. The increase in SG&A of \$45, or 16%, was primarily due to higher employment costs and legal fees.

SG&A expenses were \$288, or 5.1% of Sales, in 2022 compared with \$251, or 5.0% of Sales, in 2021. The increase in SG&A of \$37, or 15%, was primarily due to higher employment, travel, and lease costs in 2022, as well as legal and other advisory reimbursements received in 2021 that did not recur in 2022.

Research and development expenses ("R&D"). R&D expenses were \$36 in 2023 compared with \$32 in 2022. The increase of \$4, or 13%, was primarily due to higher spending on technology projects intending to support the aerospace business.

R&D expenses were \$32 in 2022 compared with \$17 in 2021. The increase of \$15, or 88%, was primarily due to higher spending on technology projects across all segments.

Provision for depreciation and amortization (“D&A”). The provision for D&A was \$272 in 2023 compared with \$265 in 2022. The increase of \$7, or 3%, was primarily driven by higher depreciation in the Engine Products segment.

The provision for D&A was \$265 in 2022 compared with \$270 in 2021. The decrease of \$5, or 2%, was primarily driven by lower corporate software amortization and reduced depreciation due to the sale of the corporate center.

Restructuring and other charges. Restructuring and other charges were \$23 in 2023 compared with \$56 in 2022 and \$90 in 2021.

Restructuring and other charges in 2023 consisted primarily of a \$12 charge for impairment of assets primarily related to decommissioned fixed assets in Engineered Structures, a \$5 charge for U.S. and Canadian pension plans' settlement accounting, a \$3 charge for layoff costs, a \$3 charge for various other exit related costs primarily for the closures of small manufacturing facilities, and a \$2 charge for accelerated depreciation primarily related to the closure of a small Engineered Structures facility in the U.K. The Company has closed some small manufacturing facilities and may in the future close additional small facilities in order to consolidate operations, reduce fixed costs, and exit less profitable businesses.

Restructuring and other charges in 2022 consisted primarily of a \$58 charge for U.K. and U.S. pension plans' settlement accounting and a \$6 charge for various other exit costs. These charges were partially offset by a gain of \$8 on the sale of assets at a small U.S. manufacturing facility in Engine Products.

Restructuring and other charges in 2021 consisted primarily of a \$75 charge for U.K. and U.S. pension plans' settlement accounting, a \$15 charge for accelerated depreciation primarily related to the closure of small U.S. manufacturing facilities in Engine Products and Fastening Systems, a \$7 charge for layoff costs, a \$4 charge for impairment of assets associated with an agreement to sell a small manufacturing business in France, and a \$4 charge for various other exit costs. These charges were partially offset by a gain of \$12 on the sale of assets at a small U.S. manufacturing facility in Fastening Systems and a benefit of \$3 related to the reversal of a number of layoff reserves related to prior periods.

See [Note D](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for additional detail.

Interest expense, net. Interest expense, net was \$218 in 2023 compared with \$229 in 2022. The decrease of \$11, or 5%, was primarily due to a reduced average level of debt for the year ended December 31, 2023 compared to the year ended December 31, 2022. On an annual basis, the debt reduction and refinancing activities in 2023 will decrease Interest expense, net by approximately \$29.

Interest expense, net was \$229 in 2022 compared with \$259 in 2021. The decrease of \$30, or 12%, was primarily due to a reduced average level of debt for the year ended December 31, 2022 compared to the year ended December 31, 2021.

See [Note Q](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for additional detail related to the Company's debt.

Loss on debt redemption. Debt redemption or tender premiums include the cost to redeem or repurchase certain of the Company's notes at a price which may be equal to the greater of the principal amount or the sum of the present values of the remaining scheduled payments, discounted using a defined treasury rate plus a spread, or a price based on the market price of its notes. Loss on debt redemption was \$2 in both 2023 and 2022.

Loss on debt redemption was \$2 in 2022 compared with \$146 in 2021. The decrease of \$144 was primarily due to debt premiums paid in 2021 related to the repurchases of the 6.875% Notes due 2025 (the "6.875% Notes"), the 5.870% Notes due 2022, and the 5.125% Notes.

See [Note Q](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for additional detail related to the Company's debt.

Other expense, net. Other expense, net was \$8 in 2023 compared with \$82 in 2022. The decrease in expense of \$74 was primarily due to the reversal of \$25 of the \$65 pre-tax charge taken in the third quarter of 2022 related to the Lehman Brothers International (Europe) ("LBIE") legal proceeding which was settled in the second quarter of 2023 (See [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#)) (Financial Statements and Supplementary Data) and higher interest income of \$17, partially offset by the impacts of deferred compensation arrangements of \$18, higher non-service related net periodic benefit costs related to pension and other postretirement benefit plans in 2023 of \$13, and an increase from net realized and unrealized losses of \$4, primarily related to mark-to-market adjustments on exchange-traded fixed income securities and losses on sales of receivables. Non-service related net periodic benefit costs related to defined benefit plans is expected to increase by approximately \$15 from 2023 to 2024.

Other expense, net was \$82 in 2022 compared with \$19 in 2021. The increase in expense of \$63 was primarily driven by the adverse judgment of \$65 related to the LBIE swaps, an increase from net realized and unrealized losses of \$9, primarily related to mark-to-market adjustments on exchange-traded fixed income securities and losses on sales of receivables, and higher non-service related net periodic benefit costs related to pension and other postretirement benefit plans in 2022 of \$7, partially offset by the impacts of deferred compensation arrangements of \$16 and higher interest income of \$4.

Income taxes. Howmet's effective tax rate was 21.5% (provision on pre-tax income) in 2023 compared with the U.S. federal statutory rate of 21%. The effective tax rate differs from the U.S. federal statutory rate primarily as a result of a \$21 charge for a tax reserve established in France, \$10 of incremental state tax and foreign taxes on earnings also subject to U.S. federal income tax, and \$8 of charges related to nondeductible expenses, partially offset by a \$14 benefit to release a valuation allowance related to U.S. foreign tax credits, a \$9 excess benefit for stock compensation, \$7 of benefits related to tax credits, a \$2 benefit to release a valuation allowance related to U.S. state tax losses and credits, and a \$2 benefit to revalue deferred taxes for changes to apportioned U.S. state tax rates. On October 8, 2021, the Organization for Economic Cooperation and Development ("OECD") released the Pillar Two model rules introducing a 15% global minimum tax under the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting. Jurisdictions where the Company operates have started to enact Pillar Two legislation effective January 1, 2024, and other jurisdictions are expected to enact legislation prospectively. The Company has assessed both enacted and proposed Pillar Two legislation and, at this time, does not expect a material impact to its corporate tax liability or effective tax rate. Howmet anticipates that the effective tax rate in 2024 will be approximately 21.5%.

Howmet's effective tax rate was 22.6% (provision on pre-tax income) in 2022 compared with the U.S. federal statutory rate of 21%. The effective tax rate differs from the U.S. federal statutory rate primarily as a result of a \$12 charge related to an increase in the valuation allowance on a foreign tax credit carryforward in the U.S., \$8 of charges related to U.S. tax on Global Intangible Low-Taxed Income ("GILTI") and other foreign earnings, \$8 of charges related to nondeductible expenses, and \$5 of incremental state tax and foreign taxes on earnings also subject to U.S. federal income tax, partially offset by a \$6 benefit for the release of a valuation allowance on interest deduction carryforwards in the U.K., a \$5 benefit related to a tax accounting method change, a \$5 excess benefit for stock compensation, and a \$3 benefit related to a distribution of foreign earnings. The Inflation Reduction Act of 2022 (the "Act") was signed into law on August 16, 2022. The Act includes various tax provisions, including a 1% excise tax on net stock repurchases, expanded tax credits for clean energy incentives, and a corporate alternative minimum tax that generally applies to U.S. corporations with average adjusted financial statement income over a three-year period in excess of \$1,000. The Company does not expect the Act to materially impact its financial statements.

Howmet's effective tax rate was 20.4% (provision on pre-tax income) in 2021 compared with the U.S. federal statutory rate of 21%. The effective tax rate differs from the U.S. federal statutory rate primarily as a result of a \$32 benefit from the recognition of income tax credits related to development incentives in Hungary and a \$9 benefit related to updated U.S. regulatory guidance concerning the utilization of foreign tax credits in connection with the one-time transition tax on the deemed repatriation of previously non-taxed post-1986 earnings and profits of certain foreign subsidiaries enacted as part of the U.S. Tax Cuts and Jobs Act of 2017 (the "2017 Act"), partially offset by \$9 of charges from the decision to no longer permanently reinvest earnings in certain foreign subsidiaries, \$8 of charges to establish a valuation allowance on certain net operating losses in Switzerland, \$7 of charges from distributions of foreign earnings, \$6 of charges related to U.S. tax on foreign income, and other impacts related to nondeductible expenses including foreign losses with no tax benefit.

Net income. Net income was \$765, or \$1.83 per diluted share, for 2023 compared to \$469, or \$1.11 per diluted share, in 2022. The increase in results of \$296, or 63%, was primarily due to higher sales in the commercial aerospace market, favorable product pricing of \$105, a change of \$90 due to the reversal of \$25 of the \$65 pre-tax charge taken in the third quarter of 2022 related to the LBIE legal proceeding (See [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#)), a decrease in Restructuring and other charges of \$33, and a decrease in Interest expense, net of \$11, partially offset by an increase in the Provision for income taxes primarily driven by an increase in income before income taxes.

Net income was \$469, or \$1.11 per diluted share, for 2022 compared to \$258, or \$0.59 per diluted share, in 2021. The increase in results of \$211, or 82%, was primarily due to higher sales in the commercial aerospace market, a decrease in the Loss on debt redemption of \$144, favorable product pricing of \$67, a decrease of \$34 in Restructuring and other charges, and a decrease in Interest expense, net of \$30, partially offset by lower sales in the defense aerospace market, an increase in other inflationary costs, the adverse judgment related to the LBIE legal proceeding of \$65, and an increase in the Provision for income taxes primarily driven by an increase in income before income taxes.

Segment Information

The Company's operations consist of four worldwide reportable segments: Engine Products, Fastening Systems, Engineered Structures and Forged Wheels. Segment performance under Howmet's management reporting system is evaluated based on a number of factors; however, the primary measure of performance is Segment Adjusted EBITDA. Prior to the first quarter of 2022, the Company used Segment operating profit as its primary measure of performance. However, the Company's CEO believes that Segment Adjusted EBITDA is a better representation of its business because it provides additional information with respect to the Company's operating performance and the Company's ability to meet its financial obligations. Howmet's definition of Segment Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) is net margin plus an add-back for depreciation and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative,

and other expenses; Research and development expenses; and Provision for depreciation and amortization. Special items, including Restructuring and other charges, are excluded from Net margin and Segment Adjusted EBITDA. Segment Adjusted EBITDA may not be comparable to similarly titled measures of other companies.

Differences between the total segment and consolidated totals are in Corporate (See [Note C](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K).

The Company has aligned its operations consistent with how the CEO assesses operating performance and allocates capital.

Income before income taxes totaled \$975 in 2023, \$606 in 2022, and \$324 in 2021. Segment Adjusted EBITDA for all reportable segments totaled \$1,587 in 2023, \$1,352 in 2022, and \$1,200 in 2021. See below for the reconciliation of Total Segment Adjusted EBITDA to Income before income taxes.

The following information provides Sales, Segment Adjusted EBITDA, and Segment Adjusted EBITDA Margin for each reportable segment for each of the three years in the period ended December 31, 2023.

Engine Products

	2023			2022			2021	
Third-party sales	\$	3,266		\$	2,698		\$	2,282
Segment Adjusted EBITDA		887			729			564
Segment Adjusted EBITDA Margin		27.2 %			27.0 %			24.7 %

Engine Products produces investment castings, including airfoils, and seamless rolled rings primarily for aircraft engines (aerospace commercial and defense) and industrial gas turbine applications. Engine Products produces rotating parts as well as structural parts, which are sold directly to customers. Generally, the sales and costs and expenses of this segment are transacted in the local currency of the respective operations, which are mostly the U.S. dollar, British pound, euro, and Japanese yen.

Third-party sales for the Engine Products segment increased \$568, or 21%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace, defense aerospace, industrial gas turbine, and oil and gas markets.

Third-party sales for the Engine Products segment increased \$416, or 18%, in 2022 compared with 2021, primarily due to higher volumes in the commercial aerospace and oil and gas markets as well as an increase in material cost pass through and favorable product pricing.

Segment Adjusted EBITDA for the Engine Products segment increased \$158, or 22%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace, defense aerospace, industrial gas turbine, and oil and gas markets. The segment absorbed approximately 1,030 net headcount since the end of 2022 in support of expected revenue increases, resulting in unfavorable near-term recruiting, training and operational costs.

Segment Adjusted EBITDA for the Engine Products segment increased \$165, or 29%, in 2022 compared with 2021, primarily due to higher volumes in the commercial aerospace and oil and gas markets as well as productivity gains and favorable product pricing.

Segment Adjusted EBITDA Margin for the Engine Products segment increased approximately 20 basis points in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace, defense aerospace, industrial gas turbine, and oil and gas markets, partially offset by an increase in headcount and inflationary costs.

Segment Adjusted EBITDA Margin for the Engine Products segment increased approximately 230 basis points in 2022 compared with 2021, primarily due to higher volumes in the commercial aerospace and oil and gas markets as well as productivity gains, partially offset by an increase in material cost pass through.

On May 15, 2023, Howmet and the United Autoworkers at our Whitehall, Michigan location approved a new five-year collective bargaining agreement, covering approximately 1,400 employees, effective April 1, 2023. The previous agreement expired on March 31, 2023. The agreement positions our Whitehall location to offer market competitive wages and benefits and provide additional operational flexibility in support of future revenue increases.

In 2024, as compared to 2023, demand in the commercial aerospace, defense aerospace, oil and gas, and industrial gas turbine markets is expected to increase.

Fastening Systems

	2023					2022					2021								
Third-party sales	\$	1,349				\$	1,117				\$	1,044							
Segment Adjusted EBITDA		278					234					239							
Segment Adjusted EBITDA Margin		20.6	%				20.9	%				22.9	%						

Fastening Systems produces aerospace and industrial fastening systems, as well as commercial transportation fasteners. The business's high-tech, multi-material fastening systems are found nose to tail on aircraft and aero engines. The business's

products are also critical components of commercial transportation vehicles and construction and industrial equipment. Fastening Systems are sold directly to customers and through distributors. Generally, the sales and costs and expenses of this segment are transacted in the local currency of the respective operations, which are mostly the U.S. dollar, British pound, and euro.

Third-party sales for the Fastening Systems segment increased \$232, or 21%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace, including the emerging wide body recovery, commercial transportation, defense aerospace, and industrial markets.

Third-party sales for the Fastening Systems segment increased \$73, or 7%, in 2022 compared with 2021, primarily due to higher volumes in the commercial aerospace market, with narrow body recovery more than offsetting Boeing 787 production declines, higher volumes in the commercial transportation market, and an increase in material cost pass through, partially offset by lower volumes in the industrial market.

Segment Adjusted EBITDA for the Fastening Systems segment increased \$44, or 19%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace, commercial transportation, defense aerospace, and industrial markets. The segment absorbed approximately 435 net headcount since the end of 2022 in support of expected revenue increases, resulting in unfavorable near-term recruiting, training and operational costs.

Segment Adjusted EBITDA for the Fastening Systems segment decreased \$5, or 2%, in 2022 compared with 2021, primarily due to Boeing 787 production declines, lower volumes in the industrial market, and inflationary costs, partially offset by higher volumes in the narrow body commercial aerospace and commercial transportation markets.

Segment Adjusted EBITDA Margin for the Fastening Systems segment decreased approximately 30 basis points in 2023 compared with 2022, primarily due to an increase in headcount and inflationary costs, partially offset by higher volumes in the commercial aerospace, commercial transportation, defense aerospace, and industrial markets.

Segment Adjusted EBITDA Margin for the Fastening Systems segment decreased approximately 200 basis points in 2022 compared with 2021, primarily due to Boeing 787 production declines, lower volumes in the industrial market, and inflationary costs, partially offset by favorable volumes in the narrow body commercial aerospace and commercial transportation markets.

In 2024, as compared to 2023, demand in the commercial aerospace and industrial markets is expected to increase.

Engineered Structures

	2023			2022			2021		
Third-party sales	\$	878		\$	790		\$	725	
Segment Adjusted EBITDA		113			111			103	
Segment Adjusted EBITDA Margin		12.9 %			14.1 %			14.2 %	

Engineered Structures produces titanium ingots and mill products for aerospace and defense applications and is vertically integrated to produce titanium forgings, extrusions, forming and machining services for airframe, wing, aero-engine, and landing gear components. Engineered Structures also produces aluminum forgings, nickel forgings, and aluminum machined components, and assemblies for aerospace and defense applications. The segment's products are sold directly to customers and through distributors, and sales and costs and expenses of this segment are generally transacted in the local currency of the respective operations, which are mostly the U.S. dollar.

Third-party sales for the Engineered Structures segment increased \$88, or 11%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace market, including Russian titanium share gains and the emerging wide body recovery, partially offset by lower volumes in the defense aerospace market associated with legacy fighter programs.

Third-party sales for the Engineered Structures segment increased \$65, or 9%, in 2022 compared with 2021, primarily due to higher volumes in the narrow body commercial aerospace market as well as an increase in material cost pass through and favorable product pricing, partially offset by lower volumes in the defense aerospace market, including lower F-35 program volumes, and Boeing 787 production declines.

Segment Adjusted EBITDA for the Engineered Structures segment increased \$2, or 2%, in 2023 compared with 2022, primarily due to higher volumes in the commercial aerospace market, partially offset by lower volumes in the defense aerospace market and additional operating costs from production rate increases not realized due to production bottlenecks at a plant. The segment absorbed approximately 280 net headcount since the end of 2022 in support of expected revenue increases, resulting in unfavorable near-term recruiting, training and operational costs.

Segment Adjusted EBITDA for the Engineered Structures segment increased \$8, or 8%, in 2022 compared with 2021, primarily due to higher volumes in the narrow body commercial aerospace market and favorable product pricing, partially offset by lower volumes in the defense aerospace market, including lower F-35 program volumes, and Boeing 787 production declines as well as inflationary costs.

Segment Adjusted EBITDA Margin for the Engineered Structures segment decreased approximately 120 basis points in 2023 compared with 2022, primarily due to lower volumes in the defense aerospace market, material and inflationary cost pass through, additional operating costs from production rate increases not realized due to production bottlenecks at a plant, and an increase in headcount, partially offset by higher volumes in the commercial aerospace market.

Segment Adjusted EBITDA Margin for the Engineered Structures segment decreased approximately 10 basis points in 2022 compared with 2021, primarily due to lower volumes in the defense aerospace market and Boeing 787 production declines as well as continued inflationary cost pressures, partially offset by higher volumes in the narrow body commercial aerospace market.

On July 10, 2023, Howmet and the United Steel Workers at our Niles, Ohio location entered into a new four-year collective bargaining agreement, covering approximately 370 employees, effective July 1, 2023. The previous agreement was to expire on April 20, 2024. The agreement positions our Niles location to offer market competitive wages and benefits, promote cost competitiveness, and provide additional operational flexibility in support of future revenue increases.

In 2024, as compared to 2023, demand in the commercial aerospace market is expected to increase.

Forged Wheels

	2023		2022		2021	
Third-party sales	\$	1,147	\$	1,058	\$	921
Segment Adjusted EBITDA		309		278		294
Segment Adjusted EBITDA Margin		26.9 %		26.3 %		31.9 %

Forged Wheels produces forged aluminum wheels and related products globally for heavy-duty trucks, trailers, and buses. Forged Wheels' products are sold directly to OEMs and through distributors. Generally, the sales and costs and expenses of this segment are transacted in the local currency of the respective operations, which are mostly the U.S. dollar and euro.

Third-party sales for the Forged Wheels segment increased \$89, or 8%, in 2023 compared with 2022, primarily due to higher volumes in the commercial transportation market.

Third-party sales for the Forged Wheels segment increased \$137, or 15%, in 2022 compared with 2021, primarily due to an increase in aluminum material and other inflationary cost pass through and higher commercial transportation volumes, partially offset by unfavorable foreign currency movements.

Segment Adjusted EBITDA for the Forged Wheels segment increased \$31, or 11%, in 2023 compared with 2022, primarily due to higher volumes in the commercial transportation market, partially offset by a supply chain disruption and unfavorable foreign currency movements.

Segment Adjusted EBITDA for the Forged Wheels segment decreased \$16, or 5%, in 2022 compared with 2021, primarily due to unfavorable foreign currency movements, partially offset by higher commercial transportation volumes.

Segment Adjusted EBITDA Margin for the Forged Wheels segment increased approximately 60 basis points in 2023 compared with 2022, primarily due to higher volumes, partially offset by a supply chain disruption and unfavorable foreign currency movements. The favorable impact of lower aluminum prices was partially offset by other inflationary cost pass through.

Segment Adjusted EBITDA Margin for the Forged Wheels segment decreased approximately 560 basis points in 2022 compared with 2021, primarily due to aluminum material and European energy cost pass through as well as unfavorable foreign currency movements, partially offset by higher volumes.

In July 2022, the Company's cast house in Barberton, Ohio, which produces aluminum ingot used in the production of wheels for the North American commercial transportation market, experienced a mechanical failure resulting in substantial heat and fire-related damage to equipment. The downtime temporarily reduced production levels and affected productivity at the plant. The plant has been repaired and resumed normal operations in the fourth quarter of 2022. The Company has insurance with a deductible of \$10.

In mid-February 2020, a fire occurred at the Company’s forged wheels plant located in Barberton, Ohio. The downtime reduced production levels and affected productivity at the plant. During the fourth quarter of 2022, the Company settled the insurance claim related to the Barberton Plant Fire.

In 2024, as compared to 2023, demand in the commercial transportation markets served by Forged Wheels is expected to decrease in most regions due to lower OEM builds. A decrease in aluminum price pass through is expected to contribute to a net decrease in sales.

Reconciliation of Total Segment Adjusted EBITDA to Income before income taxes

	2023	2022	2021
Income before income taxes	\$ 975	\$ 606	\$ 324
Loss on debt redemption	2	2	146
Interest expense, net	218	229	259
Other expense, net ⁽¹⁾	8	82	19
Operating income	\$ 1,203	\$ 919	\$ 748
Segment provision for depreciation and amortization	262	258	261
Unallocated amounts:			
Restructuring and other charges	23	56	90
Corporate expense	99	119	101
Total Segment Adjusted EBITDA	\$ 1,587	\$ 1,352	\$ 1,200

⁽¹⁾ See [Note F](#) to the Consolidated Financial Statements in [Part II, Item 8](#) of this Form 10-K.

Total Segment Adjusted EBITDA is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because it provides additional information with respect to the Company's operating performance and the Company's ability to meet its financial obligations. Differences between the total segment and consolidated totals are in Corporate.

See Restructuring and other charges, D&A, Loss on debt redemption, Interest expense, net, and Other expense, net discussions above under "Results of Operations" for reference.

Corporate expense decreased \$20, or 17%, in 2023 compared with 2022, primarily due to lower net costs related to the France Plant Fire, the Barberton Plant Fire, and the Barberton Cast House Incident of \$48, partially offset by costs associated with closures, shutdowns, and other items of \$10, costs related to collective bargaining agreement negotiations of \$8, legal and other advisory reimbursements received in 2022 of \$3 which did not recur in 2023, and higher employment costs in 2023.

Corporate expense increased \$18, or 18%, in 2022 compared with 2021, primarily due to higher net costs related to the France Plant Fire, the Barberton Plant Fire, and the Barberton Cast House Incident of \$39, higher employment, travel, and lease costs in 2022, and higher nonrecurring legal and other advisory reimbursements received in 2021 compared to 2022 of \$1, partially offset by 2021 costs of \$32 associated with closures, shutdowns, and other items which did not recur in 2022.

Environmental Matters

See the Environmental Matters section of [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) of this Form 10-K.

Liquidity and Capital Resources

Howmet maintains a disciplined approach to cash management and the strengthening of its balance sheet. Management continued to focus on actions to improve Howmet's cost structure and liquidity, providing the Company with the ability to operate effectively. Such actions included procurement efficiencies and overhead rationalization to reduce costs, working capital initiatives, and maintaining a sustainable level of capital expenditures.

Cash provided from operations and financing activities is expected to be adequate to cover Howmet's operational and business needs over the next 12 months. For an analysis of long-term liquidity, see "Contractual Obligations and Off-Balance Sheet Arrangements" below.

As of December 31, 2023, cash and cash equivalents of Howmet were \$610, of which \$384 was held by Howmet's non-U.S. subsidiaries. If the cash held by non-U.S. subsidiaries were to be repatriated to the U.S., the Company does not expect there to be material income tax consequences.

Operating Activities

Cash provided from operations in 2023 was \$901 compared with \$733 in 2022 and \$449 in 2021.

The increase in cash provided from operations of \$168, or 23%, between 2023 and 2022 was due to higher operating results of \$303, lower payments on noncurrent liabilities of \$26, and lower pension contributions of \$7, partially offset by higher working capital of \$163.

The components of the change in working capital included unfavorable changes in accounts payable of \$253, prepaid expenses and other current assets of \$18, and receivables of \$3, including collections of employee retention credit receivables, partially offset by inventories of \$92, accrued expenses of \$14, and taxes, including income taxes, of \$5.

The increase in cash provided from operations of \$284, or 63%, between 2022 and 2021 was due to lower working capital of \$165, higher operating results of \$89, and lower pension contributions of \$53, partially offset by higher payments on noncurrent liabilities of \$37. The components of the change in working capital included favorable changes in receivables of \$176, including collections of employee retention credit receivables, accrued expenses of \$169, accounts payable of \$102, and taxes, including income taxes, of \$29, partially offset by inventories of \$294 and prepaid expenses and other current assets of \$17.

Financing Activities

Cash used for financing activities was \$868 in 2023 compared with \$526 in 2022 and \$1,444 in 2021.

The use of cash in 2023 was primarily related to the repayments on the aggregate outstanding principal amount of long-term debt of approximately \$876, the repurchase of common stock of \$250, taxes paid for net share settlement of equity awards of \$77, and dividends paid to shareholders of \$73. These items were partially offset by proceeds from term loan facilities of \$400 and the exercise of employee stock options of \$11. On an annual basis, the 2023 debt reduction and refinancing activities will decrease Interest expense, net by approximately \$29.

The use of cash in 2022 was primarily related to the repurchase of common stock of \$400, the repayments on the aggregate outstanding principal amount of long-term debt of approximately \$69, and dividends paid to shareholders of \$44. These items were partially offset by proceeds from the exercise of employee stock options of \$16.

The use of cash in 2021 was primarily related to the repayments on the aggregate outstanding principal amount of long-term debt of approximately \$1,537, repurchase of common stock of \$430, premiums paid on the redemption of debt of \$138, dividends paid to shareholders of \$19, and debt issuance costs of \$11. These items were partially offset by long-term debt issuance of \$700 and proceeds from the exercise of employee stock options of \$22.

For further details regarding the Company's debt reduction and refinancing activities and stock repurchases, see [Note Q](#) and [Note I](#), respectively, to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K.

The Company maintains a credit facility (the "Credit Facility") pursuant to its Five-Year Revolving Credit Agreement (the "Credit Agreement") with a syndicate of lenders and issuers named therein (See [Note Q](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for reference). There were no amounts outstanding under the Credit Agreement as of December 31, 2023 or December 31, 2022, and no amounts were borrowed during 2023 or 2022 under the Credit Agreement.

The Company has an effective shelf registration statement on Form S-3, filed with the SEC, which allows for offerings of debt securities from time to time. The Company may opportunistically issue new debt securities in accordance with securities laws or utilize commercial paper in order to, but not limited to, refinance existing indebtedness. The Company continues to evaluate whether, when and to what extent it may access capital markets, including any plans to refinance the 5.125% Notes due October 2024 and the 6.875% Notes due May 2025. Our ability to refinance our indebtedness or enter into alternative financings in adequate amounts on commercially reasonable terms, or terms acceptable to us, may be affected by circumstances and economic events outside of our control. In the event that a refinancing does not occur before the maturity dates of the Company's 5.125% Notes and the 6.875% Notes, respectively, the Company believes that its projected cash on hand and availability under the Credit Facility will enable the Company to repay, as applicable, the 5.125% Notes and/or the 6.875% Notes.

In the future, the Company may, from time to time, redeem portions of its debt securities or repurchase portions of its debt or equity securities in either the open market or through privately negotiated transactions, in accordance with applicable SEC and other legal requirements. The timing, prices, and sizes of purchases depend upon prevailing trading prices, general economic and market conditions, and other factors, including applicable securities laws. Such purchases may be completed by means of trading plans established from time to time in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, block trades, private transactions, open market repurchases, tender offers, and/or accelerated share repurchase agreements or other derivative transactions.

The Company's costs of borrowing and ability to access the capital markets are affected not only by market conditions but also by the short-term and long-term debt ratings assigned to the Company by the major credit rating agencies. The Company believes that its cash on hand, cash provided from operations and availability of the Credit Facility and its accounts receivables securitization program will continue to be sufficient to fund our operating and capital allocation activities, including repayments of indebtedness.

The Company's credit ratings from the three major credit rating agencies are as follows:

	Issuer Rating	Outlook	Date of Last Update
S&P Ratings Service	BBB-	Stable	December 15, 2023
Moody's Investors Service ("Moody's")	Ba1	Positive	September 18, 2023
Fitch Investors Service ("Fitch")	BBB	Stable	August 23, 2023

On December 15, 2023, S&P upgraded Howmet's long-term debt rating to BBB- and updated the current outlook from positive to stable, citing strong demand in the commercial aerospace market and the Company's improved financial leverage.

On September 18, 2023, Moody's affirmed Howmet's long-term debt rating at Ba1 and upgraded the current outlook from stable to positive, citing the Company's revenue and strong market position.

On August 23, 2023, Fitch upgraded Howmet's long-term debt rating to BBB, citing the Company's improved financial leverage, and affirmed the current outlook at stable.

Investing Activities

Cash used for investing activities was \$215 and \$135 in 2023 and 2022, respectively, compared with cash provided from investing activities of \$107 in 2021.

The use of cash in 2023 was capital expenditures of \$219 primarily related to various automation projects, information technology upgrades, and sustaining and return seeking capital projects across all segments, partially offset by proceeds from the sale of assets and investments of \$4.

The use of cash in 2022 was capital expenditures of \$193 primarily related to various automation projects, information technology upgrades, and sustaining capital projects across all segments, partially offset by proceeds from the sale of assets of \$58, which was primarily due to the sale of the corporate center and a manufacturing facility in Engine Products. In the second quarter of 2022, the Company sold the corporate headquarters in Pittsburgh, PA. The proceeds from the sale of the corporate headquarters were \$44, excluding \$3 of transaction costs, and a carrying value of \$41. The Company entered into a 12-year lease with the purchaser for a portion of the property. Additionally, in the fourth quarter of 2022, the Company sold the property of a manufacturing facility in the Engine Products segment. The proceeds from the sale of this property were \$15 and a carrying value of \$7.

The source of cash in 2021 was primarily cash receipts from sold receivables of \$267 and proceeds from the sale of a small manufacturing plant in France of \$8 and the sale of assets at a small U.S. manufacturing facility in Fastening Systems of \$23, partially offset by capital expenditures of \$199 primarily related to capacity expansion investments in Hungary and Mexico in Forged Wheels and various automation projections.

Contractual Obligations and Off-Balance Sheet Arrangements

Contractual Obligations

Howmet is required to make future payments under various contracts, including long-term purchase obligations, financing arrangements, and lease agreements. Howmet also has commitments to fund its pension plans, provide payments for other postretirement benefit plans, and fund capital projects.

In order to better understand Howmet's outstanding contractual obligations, the table below represents a summary of these commitments as of December 31, 2023 (these contractual obligations are grouped in the same manner as they are classified in the Statement of Consolidated Cash Flows in order to provide a better understanding of the nature of the obligations and to provide a basis for comparison to historical information):

	Total	2024	2025-2026	2027-2028	Thereafter
Operating activities:					
Raw material purchase obligations	\$ 257	\$ 220	\$ 37	\$ —	\$ —
Purchase and other payment obligations	55	49	6	—	—
Operating leases	162	39	53	30	40
Interest related to total debt	1,205	198	311	191	505
Estimated minimum required pension funding	333	52	137	144	—
Other postretirement benefit payments	90	11	20	18	41
Layoff and other restructuring payments	7	7	—	—	—
Uncertain tax positions	3	2	—	—	1
Financing activities:					
Total debt	3,716	205	1,011	925	1,575
Dividends to shareholders	21	21	—	—	—
Investing activities:					
Capital projects	230	169	61	—	—
Totals	\$ 6,079	\$ 973	\$ 1,636	\$ 1,308	\$ 2,162

Obligations for Operating Activities

Raw material purchase obligations consist mostly of aluminum, titanium, cobalt, nickel, and various other metals with expiration dates ranging from less than one year to five years. Many of these purchase obligations contain variable pricing components, and, as a result, actual cash payments may differ from the estimates provided in the preceding table. The Company generally passes through metal costs in customer contracts with limited exceptions. As a result, the Company expects higher metal costs to contribute to increased sales in 2024. In connection with the Arconic Inc. Separation Transaction, the Company entered into several agreements with Arconic Corporation that govern the relationship between the Company and Arconic Corporation following the separation, including raw material supply agreements.

Purchase and other payment obligations include the remaining settlement in connection with the LBIE legal proceeding (See [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#)) (Financial Statements and Supplementary Data), public utility purchase obligations, and future payments of tax-related interest and penalties.

Operating leases represent multi-year obligations for certain land and buildings, plant equipment, vehicles, and computer equipment.

Deferred revenue was \$64 as of December 31, 2023. Deferred revenue arrangements require Howmet to deliver product to certain customers over a specified contract period, which is expected to be within one year. While these obligations are not expected to result in cash payments and are not included in the table above, they represent contractual obligations for which the Company would be obligated if the specified product deliveries could not be made.

Interest related to total debt is based on fixed interest rates in effect as of December 31, 2023 and is calculated on debt with maturities that extend to 2042.

Estimated minimum required pension funding and other postretirement benefit payments are based on actuarial estimates using current assumptions for discount rates, long-term rate of return on plan assets, and health care cost trend rates, among others. It is Howmet's policy to fund amounts for pension plans sufficient to meet the minimum requirements set forth in the benefits laws and tax laws of the applicable country. Periodically, Howmet contributes additional amounts as deemed appropriate.

Howmet has determined that it is not practicable to present pension funding and other postretirement benefit payments beyond 2029 and 2033, respectively.

Layoff and other restructuring payments to be paid within one year primarily relate to severance costs.

Uncertain tax positions taken or expected to be taken on an income tax return may result in additional payments to tax authorities. The amounts in the preceding table include interest and penalties accrued related to such positions as of December 31, 2023. Amounts for uncertain tax positions in which the timing of future potential payments are not reasonably estimable are included in the “Thereafter” column. If a tax authority agrees with the tax position taken or expected to be taken or the applicable statute of limitations expires, then additional payments will not be necessary. Tax assessments received may also result in payments to be made in order to preserve our right to appeal any tax positions challenged by tax authorities for which we have concluded that we are more likely than not to prevail. See [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for further discussion on tax payments made.

Contingencies such as ongoing legal proceedings and environmental matters may also result in additional cash payments. The timing of these payments, if necessary, depends on several factors, including the timing of litigation and settlements of liability claims. Accordingly, amounts have not been included in the preceding table. Amounts for settled legal proceedings and other such payables are included within Purchase and other payment obligations in the preceding table. See [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K for further discussion.

Obligations for Financing Activities

Howmet has historically paid quarterly dividends on its preferred and common stock. The Company paid an aggregate of \$73 in common stock and preferred stock dividends to shareholders during 2023. Because all dividends are subject to approval by Howmet’s Board of Directors, amounts are not included in the preceding table unless such authorization has occurred. As of December 31, 2023, there were 409,914,461 shares of outstanding common stock and 546,024 shares of outstanding Class A preferred stock. In 2023, the preferred stock dividend was \$3.75 per share. A dividend of \$0.17 per share on the Company’s common stock was paid in 2023 (\$0.04 per share in each of the first, second, and third quarters of 2023 and \$0.05 in the fourth quarter of 2023). Fully diluted shares outstanding as of December 31, 2023 were 412,897,456.

The Board authorized a share repurchase program of up to \$1,500 of the Company’s outstanding common stock. After giving effect to the share repurchases made through the fourth quarter of 2023, approximately \$697 Board authorization remained available as of January 1, 2024. There is no stated expiration for the Share Repurchase Program. Accordingly, amounts have not been included in the preceding table. See “Liquidity and Capital Resources” for additional information.

Obligations for Investing Activities

Capital projects in the preceding table only include amounts approved by management as of December 31, 2023. Funding levels may vary in future years based on the anticipated construction schedules of the projects. It is expected that significant expansion projects will be funded through various sources, including cash provided from operations. Total capital expenditures are anticipated to be approximately 4% of sales in 2024 and include additional capital expenditures related to the Engine Products capacity and Forged Wheels expansions.

Off-Balance Sheet Arrangements

As of December 31, 2023, Howmet had outstanding bank guarantees related to tax matters, outstanding debt, workers’ compensation, environmental obligations, and customs duties, among others. The total amount committed under these guarantees, which expire at various dates between 2024 and 2040, was \$24 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreement, dated as of October 31, 2016, between Howmet and Alcoa Corporation, Howmet was required to provide certain guarantees for Alcoa Corporation, which had a fair value of \$6 as of both December 31, 2023 and 2022, and were included in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet. The remaining guarantee, for which the Company and Arconic Corporation are secondarily liable in the event of a payment default by Alcoa Corporation, relates to a long-term energy supply agreement that expires in 2047 at an Alcoa Corporation facility. The Company currently views the risk of an Alcoa Corporation payment default on its obligations under the contract to be remote. The Company and Arconic Corporation are required to provide a guarantee up to an estimated present value amount of approximately \$1,131 and \$1,040 as of December 31, 2023 and 2022, respectively, in the event of an Alcoa Corporation default. In December 2021, December 2022, and December 2023, a surety bond with a limit of \$80 relating to this guarantee was obtained by Alcoa Corporation to protect Howmet’s obligation. This surety bond will be renewed on an annual basis by Alcoa Corporation.

Howmet has outstanding letters of credit primarily related to workers' compensation, environmental obligations, and insurance obligations, among others. The total amount committed under these letters of credit, which automatically renew or expire at various dates, mostly in 2024, was \$114 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreements between the Company and Arconic Corporation and between the Company and Alcoa Corporation, the Company is required to retain letters of credit of \$52 (which are included in the \$114 in the above paragraph) that had previously been provided related to the Company, Arconic Corporation, and Alcoa Corporation workers' compensation claims that occurred prior to the respective separation transactions of April 1, 2020 and November 1, 2016. Arconic Corporation and Alcoa Corporation workers' compensation and letters of credit fees paid by the Company are proportionally billed to, and are reimbursed by, Arconic Corporation and Alcoa Corporation, respectively. Also, the Company was required to provide letters of credit for certain Arconic Corporation environmental obligations and, as a result, the Company has \$17 of outstanding letters of credit relating to such liabilities (which are also included in the \$114 in the above paragraph). Arconic Corporation has issued surety bonds to cover these environmental obligations. Arconic Corporation is being billed for these letter of credit fees paid by the Company and will reimburse the Company for any payments made under these letters of credit.

Howmet has outstanding surety bonds primarily related to tax matters, contract performance, workers' compensation, environmental-related matters, energy contracts, and customs duties. The total amount committed under these annual surety bonds, which automatically renew or expire at various dates, primarily in 2024 and 2025, was \$43 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreements between the Company and Arconic Corporation and between the Company and Alcoa Corporation, the Company is required to provide surety bonds of \$21 (which are included in the \$43 in the above paragraph) that had previously been provided related to the Company, Arconic Corporation, and Alcoa Corporation workers' compensation claims that occurred prior to the respective separation transactions of April 1, 2020 and November 1, 2016. Arconic Corporation and Alcoa Corporation workers' compensation claims and surety bond fees paid by the Company are proportionately billed to, and are reimbursed by, Arconic Corporation and Alcoa Corporation.

Critical Accounting Policies and Estimates

The preparation of the Consolidated Financial Statements in accordance with accounting principles generally accepted in the United States of America requires management to make certain judgments, estimates, and assumptions regarding uncertainties that affect the amounts reported in the Consolidated Financial Statements and disclosed in the accompanying Notes. These estimates are based on historical experience and, in some cases, assumptions based on current and future market experience, including considerations relating to changes in the aerospace industry. Areas that require significant judgments, estimates, and assumptions include the testing of goodwill, properties, plants, and equipment, and other intangible assets for impairment; estimating fair value of businesses acquired or divested; pension plans and other postretirement benefits obligations; stock-based compensation; income taxes; and litigation and contingent liabilities.

Management uses historical experience and all available information to make these judgments, estimates, and assumptions, and actual results may differ from those used to prepare the Company's Consolidated Financial Statements at any given time. Despite these inherent limitations, management believes that Management's Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements and accompanying Notes provide a meaningful and fair perspective of the Company.

A summary of the Company's significant accounting policies is included in [Note A](#) to the Consolidated Financial Statements of this Form 10-K. Management believes that the application of these policies on a consistent basis enables the Company to provide the users of the Consolidated Financial Statements with useful and reliable information about the Company's operating results and financial condition.

Goodwill. Howmet reviews goodwill for impairment annually (in the fourth quarter) or more frequently if indicators of impairment exist or if a decision is made to sell or realign a business. The Company has the option to assess impairment through qualitative assessment, which includes factors such as general economic conditions, negative developments in equity and credit markets, adverse changes in the markets in which an entity operates, increases in input costs that have a negative effect on earnings and cash flows, or a trend of negative or declining cash flows over multiple periods, among others. Howmet can also assess goodwill impairment through a quantitative analysis, using a discounted cash flow ("DCF") model to estimate a reporting unit's fair value. Assumptions and estimates utilized in the DCF model include weighted average cost of capital ("WACC") rates, revenue, future profitability, working capital, cash flows and a number of other items. For more information on these matters, see [Note A](#) to the Consolidated Financial Statements of this Form 10-K.

Properties, Plants, and Equipment and Other Intangible Assets. Properties, plants, and equipment and Other intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets (asset group) may not be recoverable. Recoverability of assets is determined by comparing the estimated undiscounted net cash flows of the operations related to the assets (asset group) to their carrying amount. An impairment loss would be recognized when the carrying amount of the assets (asset group) exceeds the estimated undiscounted net cash flows. The amount of the impairment loss

to be recorded is measured as the excess of the carrying value of the assets (asset group) over their fair value, with fair value determined using the best information available, which generally is a DCF model.

The determination of what constitutes an asset group, the associated estimated undiscounted net cash flows, and the estimated useful lives of the assets also require significant judgments.

Discontinued Operations and Assets Held for Sale. The fair values of all businesses to be divested are estimated using accepted valuation techniques such as a DCF model, valuations performed by third parties, earnings multiples, or indicative bids, when available. A number of significant estimates and assumptions are involved in the application of these techniques, including the forecasting of markets and market share, sales volumes and prices, costs and expenses, and multiple other factors. Management considers historical experience and all available information at the time the estimates are made; however, the fair value that is ultimately realized upon the divestiture of a business may differ from the estimated fair value reflected in the Consolidated Financial Statements.

Pension and Other Postretirement Benefits. Liabilities and expenses for pension and other postretirement benefits are determined using actuarial methodologies and incorporate significant assumptions, including the interest rate used to discount the future estimated liability, the expected long-term rate of return on plan assets, and several assumptions relating to the employee workforce (health care cost trend rates, retirement age, and mortality). The pension and other postretirement benefits obligation was \$1,695 and \$1,719, with a funded status of \$(770) and \$(749) as of December 31, 2023 and 2022, respectively. The total benefit obligation reduction of \$24 was primarily driven by benefit payments and plan settlements. The decline in the funded status of \$21 was primarily driven by service and interest costs and changes in discount rates, partially offset by asset returns and contributions. Excluding settlements and curtailments, net periodic benefit cost of pension and other postretirement benefits is expected to be approximately \$46 in 2024 compared to \$33 and \$22 in 2023 and 2022, respectively. These costs increased by \$11, or 50%, in 2023 compared to 2022 as a result of changes in discount rates and asset returns.

Employer contributions for pension benefits were \$36 and \$43 for the years ended December 31, 2023 and 2022, respectively. Benefits paid for other postretirement benefits were \$14 and \$13 for the years ended December 31, 2023 and 2022, respectively. Total pension contributions and other postretirement benefits paid decreased by \$6, or 11%, in 2023 compared to 2022 primarily driven by improved asset returns year over year. Cash pension contributions in 2024 are expected to be approximately \$52. Howmet's funded status under the Employee Retirement Income Security Act was approximately 70% as of January 1, 2023.

The interest rate used to discount future estimated liabilities for the U.S. is determined using a Company-specific yield curve model (above-median) developed with the assistance of an external actuary, while both the U.K. and Canada utilize models developed by the respective actuary. The cash flows of the plans' projected benefit obligations are discounted using a single equivalent rate derived from yields on high quality corporate bonds, which represent a broad diversification of issuers in various sectors, including finance and banking, industrials, transportation, and utilities, among others. The yield curve models parallel the plans' projected cash flows, which have a global average duration of 10 years. The underlying cash flows of the bonds included in the models exceed the cash flows needed to satisfy the Company's plans' obligations multiple times. In 2023, 2022, and 2021, the discount rate used to determine benefit obligations for pension and other postretirement benefit plans was 5.10%, 5.40%, and 2.70%, respectively. The impact on the liabilities of a change in the discount rate of 1/4 of 1% would be approximately \$36 and either a charge or credit of less than \$1 to earnings in the following year.

The expected long-term rate of return on plan assets is generally applied to a five-year market-related value of plan assets. The process used by management to develop this assumption is one that relies on a combination of historical asset return information and forward-looking returns by asset class. As it relates to historical asset return information, management focuses on various historical moving averages when developing this assumption. While consideration is given to recent performance and historical returns, the assumption represents a long-term, prospective return. Management also incorporates expected future returns on current and planned asset allocations using information from various external investment managers and consultants, as well as management's own judgment.

Management used 6.70% for both 2023 and 2022 and 6.20% for 2021 as its weighted-average global expected long-term rate of return on plan assets, which was based on the prevailing and planned strategic asset allocations, as well as estimates of future returns by asset class for each plan. These rates were within the respective range of the 20-year moving average of actual performance and the expected future return developed by asset class for each plan. For 2024, management anticipates that the expected long-term rate of return for global plan assets will remain at approximately 7%. A change in the assumption for the expected long-term rate of return on plan assets of 1/4 of 1% would impact earnings by approximately \$3 for 2024.

In 2023, net loss of \$36 (after-tax) was recorded in other comprehensive loss, primarily due to the decrease in the discount rate. In 2022, net income of \$146 (after-tax) was recorded in other comprehensive loss, primarily due to the increase in the discount rate and amortization of actuarial losses, partially offset by plan asset returns that were less than expected. In 2021, net income of \$181 (after-tax) was recorded in other comprehensive loss, primarily due to the increase in the discount rate, plan asset performance that was greater than expected, and amortization of actuarial losses.

Stock-Based Compensation. Howmet recognizes compensation expense for employee equity grants using the non-substantive vesting period approach, in which the expense is recognized ratably over the requisite service period based on the grant date fair value. Forfeitures are accounted for as they occur. For restricted stock unit awards, the fair value is equivalent to the closing market price of Howmet's common stock on the date of grant. The fair value of performance awards containing a market condition is valued using a Monte Carlo valuation model. Determining the fair value at the grant date requires judgment, including estimates for the average risk-free interest rate, dividend yield, volatility, and exercise behavior. These assumptions may differ significantly between grant dates because of changes in the actual results of these inputs that occur over time.

Compensation expense recorded in 2023, 2022, and 2021 was \$50 (\$44 after-tax), \$54 (\$49 after-tax), and \$40 (\$36 after-tax), respectively.

Income Taxes. The provision (benefit) for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision (benefit) for income taxes represents income taxes paid or payable (or received or receivable) based on current year pre-tax income plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, and result from differences between the financial and tax bases of Howmet's assets and liabilities and are adjusted for changes in tax rates and tax laws when enacted.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carry-back periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and Howmet's experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance. Existing valuation allowances are re-examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any, is released. Deferred tax assets and liabilities are also remeasured to reflect changes in underlying tax rates due to law changes and the granting and lapse of tax holidays.

It is Howmet's policy to apply a tax law ordering approach when considering the need for a valuation allowance on net operating losses expected to offset GILTI inclusions. Under this approach, reductions in cash tax savings are not considered as part of the valuation allowance assessment. Instead, future GILTI inclusions are considered a source of taxable income that support the realizability of deferred tax assets.

It is Howmet's policy to treat taxes due from future inclusions in U.S. taxable income related to GILTI as a current period expense when incurred.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitations has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

Litigation and Contingent Liabilities. From time to time, we are involved in various lawsuits, claims, investigations, and proceedings. These matters may include speculative claims for substantial or indeterminate amounts of damages. Management determines the likelihood of an unfavorable outcome based on many factors, such as the nature of the matter, available defenses and case strategy, progress of the matter, views and opinions of legal counsel and other advisors, applicability and success of appeals processes, and the outcome of similar historical matters, among others. If an unfavorable outcome is deemed probable and the amount of the potential loss can be estimated, the most reasonable loss estimate is recorded. If an unfavorable outcome of a matter is deemed probable but the loss is not reasonably estimable, or if an unfavorable outcome is deemed reasonably possible, then the matter is disclosed but no liability is recorded. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss. For more information on these matters, see [Note U](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K.

Recently Adopted and Recently Issued Accounting Guidance.

See the Recently Adopted and Recently Issued Accounting Guidance section of [Note B](#) to the Consolidated Financial Statements in [Part II, Item 8](#) (Financial Statements and Supplementary Data) of this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Not material.

Item 8. Financial Statements and Supplementary Data.

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Management’s Reports to Howmet Shareholders

Management’s Report on Financial Statements and Practices

The accompanying Consolidated Financial Statements of Howmet Aerospace Inc. and its subsidiaries (the “Company”) were prepared by management, which is responsible for their integrity and objectivity. The statements were prepared in accordance with accounting principles generally accepted in the United States of America and include amounts that are based on management’s best judgments and estimates. The other financial information included in the annual report is consistent with that in the financial statements.

Management also recognizes its responsibility for conducting the Company’s affairs according to the highest standards of personal and corporate conduct. This responsibility is characterized and reflected in key policy statements issued from time to time regarding, among other things, conduct of its business activities within the laws of the host countries in which the Company operates and potentially conflicting outside business interests of its employees. The Company maintains a systematic program to assess compliance with these policies.

Management’s Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. In order to evaluate the effectiveness of internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, management has conducted an assessment, including testing, using the criteria in *Internal Control—Integrated Framework* (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). The Company’s system of internal control over financial reporting is 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. The 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 accounting principles generally accepted in the United States of America, 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.

Based on the assessment, management has concluded that the Company maintained effective internal control over financial reporting as of December 31, 2023, based on criteria in *Internal Control—Integrated Framework* (2013) issued by the COSO.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2023 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

/s/ John C. Plant		
John C. Plant		
Executive Chairman and Chief Executive Officer		

/s/ Ken Giacobbe		
Ken Giacobbe		
Executive Vice President and Chief Financial Officer		

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Howmet Aerospace Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Howmet Aerospace Inc. and its subsidiaries (the “Company”) as of December 31, 2023 and 2022, and the related consolidated statements of operations, of changes in equity, of comprehensive income and of cash flows for each of the three years in the period ended December 31, 2023, including the related notes (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 the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill Impairment Assessment – Engineered Structures Reporting Unit

As described in Notes A and O to the consolidated financial statements, the Company's consolidated goodwill balance was \$4,035 million as of December 31, 2023, and the amount of the goodwill associated with the Engineered Structures reporting unit was \$304 million. Goodwill is reviewed for impairment annually (in the fourth quarter) or more frequently if indicators of impairment exist. Howmet uses a discounted cash flow ("DCF") model to estimate the current fair value of the reporting unit, which is compared to its carrying value, when testing for impairment. Fair value is estimated by management using a discounted cash flow model. The determination of fair value using this technique requires management to use significant estimates and assumptions related to forecasting operating cash flows, including sales growth, production costs, capital spending and discount rate.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Engineered Structures reporting unit is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the Engineered Structures reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to sales growth, production costs, and discount rate; 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 Company's Engineered Structures reporting unit. These procedures also included, among others (i) testing management's process for determining the fair value of the reporting unit; (ii) evaluating the appropriateness of the discounted cash flow model; (iii) testing the completeness and accuracy of underlying data used in the model; and (iv) evaluating the reasonableness of the significant assumptions used by management related to sales growth, production costs, and discount rate. Evaluating management's significant assumptions related to sales growth and production costs involved evaluating whether the significant assumptions used by management were reasonable by considering: (i) the current and past performance of the reporting unit; (ii) the consistency with relevant industry data; and (iii) considering 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 the evaluation of the discounted cash flow model and the evaluation of the reasonableness of the discount rate significant assumption.

/s/ PricewaterhouseCoopers LLP
Pittsburgh, Pennsylvania
February 13, 2024

We have served as the Company's auditor since 1950.

Howmet Aerospace Inc. and subsidiaries
Statement of Consolidated Operations
(in millions, except per-share amounts)

[illegible]

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

Howmet Aerospace Inc. and subsidiaries
Statement of Consolidated Comprehensive Income
(in millions)

For the year ended December 31,				2023				2022				2021			
Net income				\$	765			\$	469			\$	258		
Other comprehensive (loss) income, net of tax (K):															
Change in unrecognized net actuarial loss and prior service (benefit) cost related to pension and other postretirement benefits				(36)				146				181			
Foreign currency translation adjustments				57				(131)				(96)			
Net change in unrecognized (losses) gains on cash flow hedges				(10)				7				(5)			
Total Other comprehensive income, net of tax				11				22				80			
Comprehensive income				\$	776			\$	491			\$	338		

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

Howmet Aerospace Inc. and subsidiaries
Consolidated Balance Sheet
(in millions)

[illegible]

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

Howmet Aerospace Inc. and subsidiaries
Statement of Consolidated Cash Flows

(in millions)

For the year ended December 31,		2023		2022		2021		
Operating activities								
Net income	\$	765		\$	469		\$	258
Adjustments to reconcile net income to cash provided from operations:								
Depreciation and amortization		272		265		270		
Deferred income taxes		108		79		38		
Restructuring and other charges		23		56		90		
Net realized and unrealized losses		22		18		9		
Net periodic pension cost (G)		37		24		18		
Stock-based compensation		50		54		41		
Loss on debt redemption (Q)		2		2		146		
Other		3		12		20		
Changes in assets and liabilities, excluding effects of acquisitions, divestitures, and foreign currency translation adjustments:								
Increase in receivables		(164)		(161)		(337)		
(Increase) decrease in inventories		(142)		(234)		60		
(Increase) decrease in prepaid expenses and other current assets		(24)		(6)		11		
(Decrease) increase in accounts payable, trade		(7)		246		144		
Increase (decrease) in accrued expenses		37		23		(146)		
Decrease in taxes, including income taxes		(7)		(12)		(41)		
Pension contributions		(36)		(43)		(96)		
(Increase) decrease in noncurrent assets		(4)		1		(13)		
Decrease in noncurrent liabilities		(34)		(60)		(23)		
Cash provided from operations		901		733		449		
Financing Activities								
Net change in short-term borrowings		—		(5)		(9)		
Additions to debt (Q)		400		—		700		
Repurchases and payments on debt (Q)		(876)		(69)		(1,538)		
Debt issuance costs (Q)		(2)		—		(11)		
Premiums paid on early redemption of debt (Q)		(1)		(2)		(138)		
Repurchases of common stock (I)		(250)		(400)		(430)		
Proceeds from exercise of employee stock options		11		16		22		
Dividends paid to shareholders (I)		(73)		(44)		(19)		
Taxes paid for net share settlement of equity awards		(77)		(22)		(21)		
Cash used for financing activities		(868)		(526)		(1,444)		
Investing Activities								
Capital expenditures (C and S)		(219)		(193)		(199)		
Proceeds from the sale of assets and businesses (N and T)		2		58		32		
Proceeds from the sale of securities		2		—		6		
Cash receipts from sold receivables (L)		—		—		267		
Other		—		—		1		
Cash (used for) provided from investing activities		(215)		(135)		107		
Effect of exchange rate changes on cash, cash equivalents and restricted cash		—		(2)		(1)		
Net change in cash, cash equivalents and restricted cash		(182)		70		(889)		

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

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Howmet Aerospace Inc. and subsidiaries
Notes to the Consolidated Financial Statements
(dollars in millions, except share and per-share amounts)

A. Summary of Significant Accounting Policies

Basis of Presentation. The Consolidated Financial Statements of Howmet Aerospace Inc. (formerly known as Arconic Inc.) and subsidiaries (“Howmet” or the “Company” or “we” or “our”) are prepared in conformity with accounting principles generally accepted in the United States of America (“GAAP”) and require management to make certain judgments, estimates, and assumptions. These estimates are based on historical experience and, in some cases, assumptions based on current and future market experience, including considerations relating to changes in the aerospace industry. We have made our best estimates using all relevant information available at the time, but it is possible that our estimates will differ from our actual results and affect the Consolidated Financial Statements in future periods and potentially require adverse adjustments to the recoverability of goodwill, intangible and long-lived assets, the realizability of deferred tax assets, and other judgments and estimations and assumptions. These may affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. They also may affect the reported amounts of sales and expenses during the reporting period. Actual results could differ from those estimates upon subsequent resolution of identified matters. Certain amounts in previously issued financial statements were reclassified to conform to the current period presentation.

The Company derived approximately 49%, 46%, and 41% of its revenue from products sold to the commercial aerospace market for the years ended December 31, 2023, 2022, and 2021, respectively, which is substantially less than the pre-pandemic 2019 annual rate of approximately 60%. Aircraft production in the commercial aerospace industry continues to recover based on increases in demand for narrow body and wide body aircraft. We expect commercial aerospace wide body demand to grow faster than narrow body demand on a production percentage basis. The timing and level of future aircraft builds by original equipment manufacturers are subject to changes and uncertainties, which may cause our future results to differ from prior periods due to changes in product mix in certain segments.

Principles of Consolidation. The Consolidated Financial Statements include the accounts of Howmet Aerospace Inc. and companies in which Howmet Aerospace Inc. has a controlling interest. Intercompany transactions have been eliminated. Investments in affiliates in which Howmet Aerospace Inc. cannot exercise significant influence that do not have readily determinable fair values are accounted for at cost less impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer.

Management also evaluates whether a Howmet Aerospace Inc. entity or interest is a variable interest entity and whether Howmet Aerospace Inc. is the primary beneficiary. Consolidation is required if both of these criteria are met. Howmet Aerospace Inc. does not have any variable interest entities requiring consolidation.

Cash Equivalents. Cash equivalents are highly liquid investments purchased with an original maturity of three months or less.

Inventory Valuation. Inventories are carried at the lower of cost or net realizable value with the cost of inventories determined under a combination of the first-in, first-out (“FIFO”), last-in, first-out (“LIFO”), and average-cost methods. See [Note M](#) for further details.

Properties, Plants, and Equipment. Properties, plants, and equipment are recorded at cost. Depreciation is recorded principally on the straight-line method at rates based on the estimated useful lives of the assets.

The following table details the weighted-average useful lives of structures and machinery and equipment by reporting segment (numbers in years):

	Structures	Machinery and equipment
Engine Products	30	17
Fastening Systems	27	17
Engineered Structures	28	19
Forged Wheels	28	18

Gains or losses from the sale of asset groups or properties are generally recorded in Restructuring and other charges while the sale of individual assets are recorded in Other expense, net (see policy below for assets classified as discontinued operations and held

for sale). Repairs and maintenance are charged to expense as incurred. Interest related to the construction of qualifying assets is capitalized as part of the construction costs.

Properties, plants, and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets (asset group) may not be recoverable. Recoverability of assets is determined by comparing the estimated undiscounted net cash flows of the operations related to the assets (asset group) to their carrying amount.

An impairment loss would be recognized when the carrying amount of the assets (asset group) exceeds the estimated undiscounted net cash flows. The amount of the impairment loss to be recorded is measured as the excess of the carrying value of the assets (asset group) over their fair value, with fair value determined using the best information available, which generally is a discounted cash flow (“DCF”) model. The determination of what constitutes an asset group, the associated estimated undiscounted net cash flows, and the estimated useful lives of the assets also require significant judgments. See [Note N](#) for further details.

Goodwill. Goodwill is not amortized; instead, it is reviewed for impairment annually (in the fourth quarter) or more frequently if indicators of impairment exist or if a decision is made to sell or realign a business. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include deterioration in general economic conditions, negative developments in equity and credit markets, adverse changes in the markets in which an entity operates, increases in input costs that have a negative effect on earnings and cash flows, or a trend of negative or declining cash flows over multiple periods, among others. The fair value that could be realized in an actual transaction may differ from that used to evaluate the impairment of goodwill.

Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment. Howmet has four reporting units composed of the Engine Products, Fastening Systems, Engineered Structures, and Forged Wheels segments.

Howmet determines annually, based on facts and circumstances, which of its reporting units will be subject to the qualitative assessment. Under the qualitative assessment, various events and circumstances (similar to the impairment indicators above) that would affect the estimated fair value of a reporting unit are identified to determine if a quantitative assessment should be performed. Management also considers the most recent forecasted cash flows and discount rates in determining if the prior fair value measurement estimate may be reduced to a level that would indicate impairment is more likely than not and compares the weighted average cost of capital (“WACC”) between the current and prior years for each reporting unit. If management concludes it is more likely than not (greater than 50%) that the estimated fair value of a reporting unit is less than its carrying amount, we will proceed directly to the quantitative impairment test. Howmet will periodically refresh a reporting unit’s fair value measurement and this is based on a number of factors, including how much fair value exceeded carrying value in the most recent quantitative assessment and the reporting unit’s recent performance. Our policy is that a quantitative impairment test be performed for each reporting unit at least once during every three-year period. For those reporting units where a qualitative assessment is either not performed or for which the conclusion is that an impairment is more likely than not, a quantitative impairment test will be performed.

Other Intangible Assets. Intangible assets with indefinite useful lives are not amortized while intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited.

The following table details the weighted-average useful lives of software and other intangible assets by reporting segment (numbers in years):

	Software	Other intangible assets
Engine Products	7	33
Fastening Systems	5	23
Engineered Structures	3	18
Forged Wheels	4	25

Leases. The Company determines whether a contract contains a lease at inception. The Company leases land and buildings, plant equipment, vehicles, and computer equipment which have been classified as operating leases. Certain real estate leases include one or more options to renew; the exercise of lease renewal options is at the Company’s discretion. The Company includes renewal option periods in the lease term when it is determined that the options are reasonably certain to be exercised. Certain of Howmet’s real estate lease agreements include rental payments that either have fixed contractual increases over time or adjust periodically for inflation. Certain of the Company’s lease agreements include variable lease payments. The variable portion of payments is not included in the initial measurement of the right-of-use asset or lease liability due to the uncertainty of the payment amount and is recorded as lease cost in the period incurred. The Company also rents or subleases certain real estate to third parties, which is not material to the consolidated financial statements.

Operating lease right-of-use assets and lease liabilities with an initial term greater than 12 months are recorded on the balance sheet at the present value of the future minimum lease payments over the lease term at the lease commencement date and are recognized

as lease expense on a straight-line basis over the lease term. The Company uses an incremental collateralized borrowing rate based on the information available at the lease commencement date in determining the present value of future payments, as most of its leases do not provide an implicit rate. The operating lease right-of-use assets also include any lease prepayments made and are reduced by lease incentives and accrued exit costs.

Environmental Matters. Expenditures for current operations are expensed or capitalized, as appropriate. Expenditures relating to existing conditions caused by past operations, which will not contribute to future sales, are expensed. Liabilities are recorded when remediation costs are probable and can be reasonably estimated. The liability may include costs such as site investigations, consultant fees, feasibility studies, outside contractors, and monitoring expenses. Estimates are generally not discounted or reduced by potential claims for recovery. Claims for recovery are recognized when probable and as agreements are reached with third parties. The estimates also include costs related to other potentially responsible parties to the extent that Howmet has reason to believe such parties will not fully pay their proportionate share. The liability is continuously reviewed and adjusted to reflect current remediation progress, prospective estimates of required activity, and other factors that may be relevant, including changes in technology or regulations.

Litigation and Contingent Liabilities. From time to time, we are involved in various lawsuits, claims, investigations, and proceedings. These matters may include speculative claims for substantial or indeterminate amounts of damages. Management determines the likelihood of an unfavorable outcome based on many factors, such as the nature of the matter, available defenses and case strategy, progress of the matter, views and opinions of legal counsel and other advisors, applicability and success of appeals processes, and the outcome of similar historical matters, among others. If an unfavorable outcome is deemed probable and the amount of the potential loss can be estimated, the most reasonable loss estimate is recorded. If an unfavorable outcome of a matter is deemed probable but the loss is not reasonably estimable, or if an unfavorable outcome is deemed reasonably possible, then the matter is disclosed but no liability is recorded. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss.

Revenue Recognition. The Company's contracts with customers are comprised of acknowledged purchase orders incorporating the Company's standard terms and conditions, or for larger customers, may also generally include terms under negotiated multi-year agreements. These contracts with customers typically consist of the manufacturing of products which represent single performance obligations that are satisfied upon transfer of control of the product to the customer. The Company produces fastening systems; seamless rolled rings; investment castings, including airfoils; extruded, machined and formed aircraft parts; and forged aluminum commercial vehicle wheels. Transfer of control is assessed based on alternative use of the products we produce and our enforceable right to payment for performance to date under the contract terms. Transfer of control and revenue recognition generally occur upon shipment or delivery of the product, which is when title, ownership and risk of loss pass to the customer and is based on the applicable shipping terms. The shipping terms vary across all businesses and depend on the product, the country of origin, and the type of transportation (truck, train, or vessel). An invoice for payment is issued at the time of shipment. Our segments set commercial terms on which Howmet sells products to its customers. These terms are influenced by industry custom, market conditions, product line (specialty versus commodity products), and other considerations.

In certain circumstances, Howmet receives advanced payments from its customers for product to be delivered in future periods. These advanced payments are recorded as deferred revenue until the product is delivered and title and risk of loss have passed to the customer in accordance with the terms of the contract. Deferred revenue was \$64 and \$32 as of December 31, 2023 and 2022, respectively, and is included in Other current liabilities and Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet.

Income Taxes. The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision for income taxes represents income taxes paid or payable (or received or receivable) for the current year plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, and result from differences between the financial and tax bases of Howmet's assets and liabilities and are adjusted for changes in tax rates and tax laws when enacted.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50%) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and Howmet's experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance. Existing valuation allowances are re-examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any,

is released. Deferred tax assets and liabilities are also remeasured to reflect changes in underlying tax rates due to law changes and the granting and lapse of tax holidays.

It is Howmet's policy to apply a tax law ordering approach when considering the need for a valuation allowance on net operating losses expected to offset Global Intangible Low-Taxed Income ("GILTI") income inclusions. Under this approach, reductions in cash tax savings are not considered as part of the valuation allowance assessment. Instead, future GILTI inclusions are considered a source of taxable income that support the realizability of deferred tax assets.

It is Howmet's policy to treat taxes due from future inclusions in United States ("U.S.") taxable income related to GILTI as a current period expense when incurred.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitations has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

Stock-Based Compensation. Howmet recognizes compensation expense for employee equity grants using the non-substantive vesting period approach, in which the expense is recognized ratably over the requisite service period based on the grant date fair value. Forfeitures are accounted for as they occur. The fair value of performance awards containing a market condition is valued using a Monte Carlo valuation model. Determining the fair value at the grant date requires judgment, including estimates for the average risk-free interest rate, dividend yield, volatility, and exercise behavior. These assumptions may differ significantly between grant dates because of changes in the actual results of these inputs that occur over time.

Foreign Currency. The local currency is the functional currency for Howmet's significant operations outside the U.S., except for certain operations in Canada and the United Kingdom ("U.K."), where the U.S. dollar is used as the functional currency. The determination of the functional currency for Howmet's operations is made based on the appropriate economic and management indicators.

Derivatives and Hedging. Derivatives are held for purposes other than trading and are part of a formally documented risk management program. The Company uses commodity derivative financial instruments to manage its economic risk. For interest rate exposures, we use interest rate swaps to effect a fixed rate payment and hedge the variability in future payment changes.

The Company records derivative instruments on its consolidated balance sheets at fair value and evaluates hedge effectiveness when electing to apply hedge accounting. When electing to apply hedge accounting, the Company formally documents all derivative hedges at inception and the underlying hedged items, as well as the risk management objectives and strategies for undertaking the hedge transaction.

For derivatives and debt instruments that are designated and qualify for hedge accounting, changes in the fair value are recorded in Accumulated other comprehensive income (loss). Derivatives that are designated as cash flow hedges are recorded in Accumulated other comprehensive income (loss) and reclassified to the Consolidated Statements of Operations when the effects of the item being hedged are recognized in the Consolidated Statements of Operations. The remeasurements of debt instruments designated as net investment hedges are recorded in Accumulated other comprehensive income (loss) and will be reclassified to earnings only upon the sale or liquidation of the Company's hedged net investment. Cash flows from derivatives are recognized in the Statement of Consolidated Cash Flows in a manner consistent with the underlying transactions.

Acquisitions. Howmet's business acquisitions are accounted for using the acquisition method. The purchase price is allocated to the assets acquired and liabilities assumed based on their estimated fair values. Any excess purchase price over the fair value of the net assets acquired is recorded as goodwill. For all acquisitions, operating results are included in the Statement of Consolidated Operations from the date of the acquisition.

Discontinued Operations and Assets Held for Sale. For those businesses where management has committed to a plan to divest, each business is valued at the lower of its carrying amount or estimated fair value less cost to sell. If the carrying amount of the business exceeds its estimated fair value, an impairment loss is recognized. Fair value is estimated using accepted valuation techniques such as a DCF model, valuations performed by third parties, earnings multiples, or indicative bids, when available. A number of significant estimates and assumptions are involved in the application of these techniques, including the forecasting of markets and market share, sales volumes and prices, costs and expenses, and multiple other factors. Management considers historical experience and all available information at the time the estimates are made; however, the fair value that is ultimately realized upon the divestiture of a business may differ from the estimated fair value reflected in the Consolidated Financial Statements. Depreciation and amortization expense is not recorded on assets of a business to be divested once they are classified as

held for sale. Businesses to be divested are generally classified in the Consolidated Financial Statements as either discontinued operations or held for sale.

For businesses classified as discontinued operations, the balance sheet amounts and results of operations are reclassified from their historical presentation to assets and liabilities of discontinued operations on the Consolidated Balance Sheet and to discontinued operations on the Statement of Consolidated Operations, respectively, for all periods presented. The gains or losses associated with these divested businesses are recorded in discontinued operations on the Statement of Consolidated Operations. The Statement of Consolidated Cash Flows is not required to be reclassified for discontinued operations for any period. Segment information does not include the assets or operating results of businesses classified as discontinued operations for all periods presented. These businesses are expected to be disposed of within one year.

For businesses classified as held for sale that do not qualify for discontinued operations treatment, the balance sheet and cash flow amounts are reclassified from their historical presentation to assets and liabilities of operations held for sale for all periods presented. The results of operations continue to be reported in continuing operations. The gains or losses associated with these divested businesses are recorded in Restructuring and other charges on the Statement of Consolidated Operations. The segment information includes the assets and operating results of businesses classified as held for sale for all periods presented. As of December 31, 2023, Howmet has no businesses that are classified as discontinued operations or held for sale.

B. Recently Adopted and Recently Issued Accounting Guidance

Recently Adopted Accounting Guidance.

In September 2022, the Financial Accounting Standards Board (“FASB”) issued guidance to enhance the transparency of disclosures regarding supplier finance programs (See [Note S](#)). These changes became effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, except for the amendment on rollforward information, which is effective for fiscal years beginning after December 15, 2023.

On January 1, 2021, the Company adopted changes issued by the FASB that were intended to simplify various aspects of accounting for income taxes by eliminating certain exceptions contained in existing guidance and amending other guidance to simplify several other income tax accounting matters. The adoption of this new guidance did not have a material impact on the Consolidated Financial Statements.

Recently Issued Accounting Guidance.

In December 2023, the FASB issued guidance to enhance the transparency of income tax disclosures. These changes become effective for fiscal years beginning after December 15, 2024. Management is currently evaluating the impact of these changes on the Consolidated Financial Statements.

In November 2023, the FASB issued guidance to enhance disclosures related to reportable segments. These changes become effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Management is currently evaluating the impact of these changes on the Consolidated Financial Statements.

In March 2020, the FASB issued amendments that provide optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform, if certain criteria are met. The amendments apply only to contracts and hedging relationships that reference London Inter-bank Offered Rate (“LIBOR”) or another reference rate expected to be discontinued due to reference rate reform. These amendments are effective immediately and may be applied prospectively to contract modifications made and hedging relationships entered into or evaluated on or before December 31, 2022. In December 2022, the FASB deferred the sunset date to December 31, 2024. The Company has amended its agreements in accordance with the new guidance (See [Note L](#) and [Note Q](#)). Management has concluded that the impact of these changes did not have a material impact on the Consolidated Financial Statements.

C. Segment and Geographic Area Information

Howmet is a global leader in lightweight metals engineering and manufacturing. Howmet’s innovative, multi-material products, which include nickel, titanium, aluminum, and cobalt, are used worldwide in the aerospace (commercial and defense), commercial transportation, and industrial and other markets. Segment performance under Howmet’s management reporting system is evaluated based on a number of factors; however, the primary measure of performance is Segment Adjusted EBITDA. Prior to the first quarter of 2022, the Company used Segment operating profit as its primary measure of performance. However, the Company’s Chief Executive Officer believes that Segment Adjusted EBITDA is a better representation of its business because it provides additional information with respect to the Company’s operating performance and the Company’s ability to meet its financial obligations. Howmet’s definition of Segment Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) is net margin plus an add-back for depreciation and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; Research and development expenses; and Provision for

depreciation and amortization. Special items, including Restructuring and other charges, are excluded from net margin and Segment Adjusted EBITDA. Segment Adjusted EBITDA may not be comparable to similarly titled measures of other companies. Differences between the total segment and consolidated totals are in Corporate.

Howmet's operations consist of four worldwide reportable segments as follows:

Engine Products

Engine Products produces investment castings, including airfoils, and seamless rolled rings primarily for aircraft engines and industrial gas turbine applications. Engine Products produces rotating parts as well as structural parts.

Fastening Systems

Fastening Systems produces aerospace fastening systems, as well as commercial transportation, industrial and other fasteners. The business's high-tech, multi-material fastening systems are found nose to tail on aircraft and aero engines. Fastening Systems' products are also critical components of commercial transportation vehicles, construction and industrial equipment, and renewable energy sectors.

Engineered Structures

Engineered Structures produces titanium ingots and mill products for aerospace and defense applications and is vertically integrated to produce titanium forgings, extrusions, forming and machining services for airframe, wing, aero-engine, and landing gear components. Engineered Structures also produces aluminum forgings, nickel forgings, and aluminum machined components and assemblies for aerospace and defense applications.

Forged Wheels

Forged Wheels provides forged aluminum wheels and related products for heavy-duty trucks and the commercial transportation market.

The operating results and assets of the Company's reportable segments were as follows:

Year ended	Engine Products		Fastening Systems		Engineered Structures		Forged Wheels		Total Segment
2023									
Sales:									
Third-party sales	\$	3,266	\$	1,349	\$	878	\$	1,147	\$ 6,640
Inter-segment sales		13		—		3		—	16
Total sales	\$	3,279	\$	1,349	\$	881	\$	1,147	\$ 6,656
Profit and loss:									
Segment Adjusted EBITDA	\$	887	\$	278	\$	113	\$	309	\$ 1,587
Restructuring and other (credits) charges		(2)		1		21		—	20
Provision for depreciation and amortization		130		46		47		39	262
Other:									
Capital expenditures	\$	112	\$	31	\$	26	\$	36	\$ 205
Total assets		4,926		2,749		1,415		724	9,814
2022									
Sales:									
Third-party sales	\$	2,698	\$	1,117	\$	790	\$	1,058	\$ 5,663
Inter-segment sales		4		—		6		—	10
Total sales	\$	2,702	\$	1,117	\$	796	\$	1,058	\$ 5,673
Profit and loss:									
Segment Adjusted EBITDA	\$	729	\$	234	\$	111	\$	278	\$ 1,352
Restructuring and other charges		29		8		7		2	46
Provision for depreciation and amortization		125		45		48		40	258
Other:									
Capital expenditures	\$	94	\$	39	\$	17	\$	28	\$ 178
Total assets		4,784		2,661		1,273		701	9,419
2021									
Sales:									
Third-party sales	\$	2,282	\$	1,044	\$	725	\$	921	\$ 4,972
Inter-segment sales		4		—		6		—	10
Total sales	\$	2,286	\$	1,044	\$	731	\$	921	\$ 4,982
Profit and loss:									
Segment Adjusted EBITDA	\$	564	\$	239	\$	103	\$	294	\$ 1,200
Restructuring and other charges		74		—		16		—	90
Provision for depreciation and									

The following table reconciles Total segment capital expenditures, which are presented on an accrual basis, with Capital expenditures as presented on the Statement of Consolidated Cash Flows. Differences between the total segment and consolidated totals are in Corporate, including the impact of changes in accrued capital expenditures during the period.

For the year ended December 31,	2023	2022	2021
Total segment capital expenditures	\$ 205	\$ 178	\$ 182
Corporate	14	15	17
Capital expenditures	\$ 219	\$ 193	\$ 199

The following tables reconcile certain segment information to consolidated totals. Differences between the total segment and consolidated totals are in Corporate.

For the year ended December 31,	2023	2022	2021
Sales:			
Total segment sales	\$ 6,656	\$ 5,673	\$ 4,982
Elimination of inter-segment sales	(16)	(10)	(10)
Consolidated sales	\$ 6,640	\$ 5,663	\$ 4,972

For the year ended December 31,	2023	2022	2021
Total Segment Adjusted EBITDA	\$ 1,587	\$ 1,352	\$ 1,200
Segment provision for depreciation and amortization	(262)	(258)	(261)
Unallocated amounts:			
Restructuring and other charges	(23)	(56)	(90)
Corporate expense	(99)	(119)	(101)
Operating income	\$ 1,203	\$ 919	\$ 748
Loss on debt redemption	(2)	(2)	(146)
Interest expense, net	(218)	(229)	(259)
Other expense, net (E)	(8)	(82)	(19)
Income before income taxes	\$ 975	\$ 606	\$ 324

December 31,		2023		2022	
Assets:					
Total segment assets	\$	9,814		\$	9,419
Unallocated amounts:					
Cash and cash equivalents		610			791
Deferred income taxes		46			54
Corporate fixed assets, net		83			91
Fair value of derivative contracts		—			6
Accounts receivable securitization		(250)			(250)
Other		125			144
Consolidated assets	\$	10,428		\$	10,255

Segment assets include third-party receivables while the accounts receivable securitization item includes the impact of sold receivables under the Company's Accounts Receivable securitization programs. See [Note L](#) for further details.

Geographic information for sales was as follows (based upon the destination of the sale):

For the year ended December 31,						2023			2022			2021							
Sales:																			
United States						\$	3,273		\$	2,928		\$	2,542						
France						578		394		330									
Japan						378		319		319									
Germany						363		292		257									
United Kingdom						283		228		213									
Mexico						263		235		225									
Italy						220		180		181									
Canada						145		138		127									
Poland						130		96		77									
China						98		111		71									
Other						909		742		630									
						\$	6,640		\$	5,663		\$	4,972						

Geographic information for long-lived tangible assets was as follows (based upon the physical location of the assets):

[illegible]

The following table disaggregates segment revenue by major market served. Differences between the total segment and consolidated totals are in Corporate.

	Engine Products			Fastening Systems			Engineered Structures			Forged Wheels			Total Segment		
Year ended December 31, 2023															
Aerospace - Commercial	\$	1,798		\$	790		\$	641		\$	—		\$	3,229	
Aerospace - Defense		670			173			172			—			1,015	
Commercial Transportation		—			255			—			1,147			1,402	
Industrial and Other		798			131			65			—			994	
Total end-market revenue	\$	3,266		\$	1,349		\$	878		\$	1,147		\$	6,640	
Year ended December 31, 2022															
Aerospace - Commercial	\$	1,495		\$	616		\$	495		\$	—		\$	2,606	
Aerospace - Defense		526			158			239			—			923	
Commercial Transportation		—			225			—			1,058			1,283	
Industrial and Other		677			118			56			—			851	
Total end-market revenue	\$	2,698		\$	1,117		\$	790		\$	1,058		\$	5,663	
Year ended December 31, 2021															
Aerospace - Commercial	\$	1,105		\$	537		\$	387		\$	—		\$	2,029	
Aerospace - Defense		523			158			270			—			951	
Commercial Transportation		—			208			—			921			1,129	
Industrial and Other		654			141			68			—			863	
Total end-market revenue	\$	2,282		\$	1,044		\$	725		\$	921		\$	4,972	

The Company derived 64%, 62%, and 60% of its revenue from the aerospace (commercial and defense) markets for the years ended December 31, 2023, 2022, and 2021, respectively.

General Electric Company and RTX Corporation represented approximately 12% and 9%, respectively, of the Company's third-party sales for the year ended December 31, 2023, primarily from the Engine Products segment.

D. Restructuring and Other Charges

Restructuring and other charges were comprised of the following:

For the year ended December 31,	2023		2022		2021	
Layoff costs	\$	3	\$	—	\$	7
Net reversals of previously recorded layoff reserves		(1)		(1)		(3)
Pension and other post-retirement benefits - net settlement (G)		5		58		75
Non-cash asset impairments and accelerated depreciation		14		1		15
Net gain related to divestitures of assets and businesses (T)		(1)		(8)		(8)
Other		3		6		4
Total restructuring and other charges	\$	23	\$	56	\$	90

Layoff costs were recorded based on approved detailed action plans submitted by the operating locations that specified positions to be eliminated, benefits to be paid under existing severance plans, union contracts or statutory requirements and the expected timetable for completion of the plans.

2023 Actions. In 2023, Howmet recorded Restructuring and other charges of \$23, which included a \$12 charge for impairment of assets primarily related to decommissioned fixed assets in Engineered Structures; a \$5 charge for U.S. and Canadian pension plans' settlement accounting; a \$3 charge for layoff costs, including the separation of 63 employees in Engineered Structures; a \$3 charge for various other exit costs primarily for the closures of small manufacturing facilities and a \$2 charge for accelerated depreciation primarily related to the closure of a small Engineered Structures facility in the U.K. These charges were partially offset by a gain of \$1 on the sale of assets at a U.S. Engineered Structures facility and a benefit of \$1 related to the reversal of layoff reserves related to prior periods.

As of December 31, 2023, 18 of the 63 employees were separated. The remaining separations for the 2023 restructuring programs are expected to be completed in 2024.

2022 Actions. In 2022, Howmet recorded Restructuring and other charges of \$56, which included a \$58 charge for U.S. and U.K. pension plans' settlement accounting; a \$6 charge for various other exit costs; and a \$1 charge for accelerated depreciation primarily related to the closure of small U.S. manufacturing facilities in Engineered Structures. These charges were partially offset by a gain of \$8 on the sale of assets at a small U.S. manufacturing facility in Engine Products and a benefit of \$1 related to the reversal of a number of layoff reserves related to prior periods.

2021 Actions. In 2021, Howmet recorded Restructuring and other charges of \$90, which included a \$75 charge for U.K. and U.S. pension plans' settlement accounting; a \$15 charge for accelerated depreciation primarily related to the closure of small U.S. manufacturing facilities in Engine Products and Fastening Systems; a \$7 charge for layoff costs, including the separation of 253 employees (171 in Engineered Structures, 75 in Engine Products, 6 in Fastening Systems and 1 in Corporate); a \$4 charge for impairment of assets associated with an agreement to sell a small manufacturing business in France, and a \$4 charge for various other exit costs. These charges were partially offset by a gain of \$12 on the sale of assets at a small U.S. manufacturing facility in Fastening Systems and a benefit of \$3 related to the reversal of a number of layoff reserves related to prior periods.

As of December 31, 2023, 173 of the 253 employees were separated. The remaining separations for the 2021 programs are expected to be completed in 2024.

Activity and reserve balances for restructuring charges were as follows:

	Layoff costs		Other exit costs		Total	
Reserve balances at December 30, 2020	\$	54	\$	—	\$	54
2021 Activity						
Cash payments		(41)		(2)		(43)
Restructuring and other charges		79		11		90
Other ⁽¹⁾		(75)		(7)		(82)
Reserve balances at December 31, 2021	\$	17	\$	2	\$	19
2022 Activity						
Cash payments	\$	(9)	\$	(7)	\$	(16)
Restructuring and other charges		56		—		56
Other ⁽²⁾		(58)		7		(51)
Reserve balances at December 31, 2022	\$	6	\$	2	\$	8
2023 Activity						
Cash payments	\$	(3)	\$	(3)	\$	(6)
Restructuring and other charges		7		16		23
Other ⁽³⁾		(5)		(13)		(18)
Reserve balances at December 31, 2023	\$	5	\$	2	\$	7

(1) In 2021, other for layoff costs included \$75 in settlement accounting charges related to U.K. and U.S. pension plans; while other for other exit costs included a charge of \$15 for accelerated depreciation and a \$4 charge for various other exit costs, which were offset by a gain of \$12 on the sale of assets.

(2) In 2022, other for layoff costs included \$58 in settlement accounting charges related to U.S. and U.K. pension plans; while other for other exit costs included a gain of \$8 on the sale of assets, which was offset by a \$1 charge for accelerated depreciation.

(3) In 2023, other for layoff costs included \$5 in settlement accounting charges related to U.S. and Canadian pension plans; while other for other exit costs included charges of \$12 related to the impairment of assets and a \$2 charge for accelerated depreciation which was offset by a gain of \$1 on the sale of assets.

The remaining reserves as of December 31, 2023 are expected to be paid in cash during 2024.

E. Interest Cost Components

For the year ended December 31,	2023	2022	2021
Amount charged to interest expense, net	\$ 218	\$ 229	\$ 259
Loss on debt redemption (Q)	2	2	146
Amount capitalized	6	6	8
Total interest cost	\$ 226	\$ 237	\$ 413

F. Other Expense, Net

For the year ended December 31,	2023	2022	2021
Non-service costs - pension and other postretirement benefits (G)	\$ 29	\$ 16	\$ 9
Interest income	(23)	(6)	(2)
Foreign currency (gains) losses, net	(2)	(1)	2
Net realized and unrealized losses	22	18	9
Deferred compensation	10	(8)	8
Legal proceeding ⁽¹⁾	(25)	65	—
Other, net	(3)	(2)	(7)
Total other expense, net	\$ 8	\$ 82	\$ 19

⁽¹⁾ In 2023, due to the final settlement of the Lehman Brothers International (Europe) legal proceeding (See [Note U](#)) in June 2023, Legal proceeding included the reversal of \$25 of the \$65 pre-tax charge taken in 2022.

G. Pension and Other Postretirement Benefits

Howmet maintains pension plans covering U.S. employees and certain employees in foreign locations. Defined pension benefits generally depend on length of service and job grade. The majority of benefits are paid through pension trusts that are sufficiently funded to ensure that all plans can pay benefits to retirees as they become due. Most salaried and non-bargaining hourly U.S. employees hired after March 1, 2006, participate in a defined contribution plan instead of a defined benefit plan.

Howmet also maintains health care and life insurance postretirement benefit plans covering eligible U.S. retired employees. Generally, the medical plans are unfunded and pay a percentage of medical expenses, reduced by deductibles and other coverage. Life benefits are generally provided by insurance contracts. Howmet retains the right, subject to existing agreements, to change or eliminate these benefits. Effective May 1, 2019, salaried and non-bargaining hourly U.S. employees and retirees are not eligible for postretirement life insurance benefits. Salaried and non-bargaining hourly U.S. employees that retire on or after January 1, 2022 are not eligible for any postretirement medical benefits. Certain previously retired salary and non-bargaining hourly U.S. employees remain eligible for Medicare Part B reimbursement.

In 2023, 2022, and 2021, the Company applied settlement accounting to certain U.S., U.K. and Canadian pension plans due to lump sum payments to participants, which resulted in settlement charges of \$2, \$17, and \$12, respectively, that were recorded in Restructuring and other charges.

In May and July 2023, Howmet entered into new collective bargaining agreements with the United Autoworkers and United Steel Workers, respectively. These agreements amended the existing health and welfare plans, resulting in an adjustment to the Company's Accrued other postretirement benefits liability of \$10, which was offset in Accumulated other comprehensive loss.

In June 2023, the Company undertook additional actions to reduce U.S. gross pension obligations by \$19 by purchasing group annuity contracts with a third-party carrier to pay and administer future annuity payments. These actions resulted in a settlement charge of \$3 and were recorded in Restructuring and other charges in the second quarter ended June 30, 2023 in the Statement of Consolidated Operations. The funded status of the plans have not been significantly impacted.

In 2022, a certain U.S. pension plan attained funding levels that allowed full lump sum payments. These payments resulted in settlement charges of \$41 that were recorded in Restructuring and other charges in the Statement of Consolidated Operations.

In December 2022, the Canadian pension plan was amended to provide for termination of the plan. As a result, the Company recognized a reduction of \$2 in the pension benefit obligation through curtailment, which was offset in Accumulated other comprehensive loss in the Consolidated Balance Sheet. The wind-up efforts and satisfaction of all plan liabilities are expected to be completed in 2024.

In 2021, the Company undertook a number of actions to reduce pension obligations in the U.K. by offering lump sum payments to certain plan participants and entering into group annuity contracts with a third-party carrier to pay and administer future annuity payments. The Company applied settlement accounting to these U.K. pension plans, which resulted in settlement charges of \$23 that were recorded in Restructuring and other charges in the Statement of Consolidated Operations.

In the first quarter of 2021, the Company announced a plan administration change of certain of its Medicare-eligible prescription drug benefits to an Employer Group Waiver Plan with a wrap-around secondary plan effective July 1, 2021. The administration change is expected to reduce costs to the Company through the usage of Medicare Part D and drug manufacturer subsidies. Due to this amendment, along with the associated plan remeasurements, the Company recorded a decrease to its Accrued other postretirement benefits liability of \$39, which was offset in Accumulated other comprehensive loss.

In October 2021, the Company undertook additional actions to reduce gross pension obligations by \$125 by purchasing group annuity contracts with a third-party carrier to pay and administer future annuity payments. These actions resulted in a settlement charge of \$34 and were recorded in Restructuring and other charges in the fourth quarter ended December 31, 2021 in the Statement of Consolidated Operations. The funded status of the plans were not significantly impacted.

Obligations and Funded Status

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- (1) As of December 31, 2023, the actuarial losses impacting the benefit obligation were primarily due to changes in the discount rate as well as asset returns being lower than expected. At December 31, 2022, the actuarial gains impacting the benefit obligation were primarily due to changes in the discount rate as well as the alternative interest cost method.
- (2) As of December 31, 2023, the benefit obligation, fair value of plan assets, and funded status for U.S. pension plans were \$1,434, \$780, and \$(654), respectively. As of December 31, 2022, the benefit obligation, fair value of plan assets, and funded status for U.S. pension plans were \$1,459, \$833, and \$(626), respectively.

Pension Plan Benefit Obligations

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Components of Net Periodic Benefit Cost

					Pension benefits ⁽¹⁾				
					Other postretirement benefits ⁽²⁾				
For the year ended December 31,	2023	2022	2021		2023	2022	2021		
Service cost	\$ 3	\$ 4	\$ 4		\$ 1	\$ 2	\$ 2		
Interest cost	80	51	47		7	4	5		
Expected return on plan assets	(74)	(80)	(90)		—	—	—		
Recognized net actuarial loss (gain)	28	49	56		(3)	1	—		
Amortization of prior service cost (benefit)	—	—	1		(9)	(9)	(9)		
Settlements ⁽³⁾	5	58	69		—	—	—		
Curtailment ⁽⁴⁾	—	—	6		—	—	—		
Net periodic benefit cost ⁽⁵⁾	\$ 42	\$ 82	\$ 93		\$ (4)	\$ (2)	\$ (2)		

⁽¹⁾ In 2023, 2022, and 2021, net periodic benefit cost for U.S. pension plans was \$40, \$79, and \$61, respectively.

⁽²⁾ In 2021, net periodic benefit cost for other postretirement benefits reflects a reduction of less than \$1 related to the recognition of the federal subsidy awarded under Medicare Part D.

⁽³⁾ In 2023, settlements were related to U.S. and Canadian actions including an annuity buyout and lump sum benefit payments. In 2022, settlements were related to U.S. and U.K. lump sum benefit payments. In 2021, settlements were related to U.S. and U.K. actions including the purchase of group annuity contracts and lump sum benefit payments. See [Note D](#) for further details.

- (4) In 2021, the curtailment was due to plan termination.
- (5) Service cost was included within Cost of goods sold, Selling, general administrative, and other expenses; curtailment and settlements were included in Restructuring and other charges; and all other cost components were recorded in Other expense, net in the Statement of Consolidated Operations.

Assumptions

Weighted average assumptions used to determine benefit obligations for pension and other postretirement benefit plans were as follows:

December 31,	2023		2022	
Discount rate	5.10	%	5.40	%
Cash balance plan interest crediting rate	3.00	%	3.00	%

The U.S. discount rate is determined using a Company-specific yield curve model (above-median) developed with the assistance of an external actuary, while both the U.K. and Canada utilize models developed internally by their respective actuary. The cash flows of the plans’ projected benefit obligations are discounted using a single equivalent rate derived from yields on high quality corporate bonds, which represent a broad diversification of issuers in various sectors, including finance and banking, industrials, transportation, and utilities, among others. The yield curve models parallel the plans’ projected cash

flows, which have a global average duration of 10 years. The underlying cash flows of the bonds included in the models exceed the cash flows needed to satisfy the Company's plans' obligations multiple times.

Benefit accruals for future compensation under the Company's major salaried and non-bargained hourly defined benefit pension plans have ceased. The rate of compensation increase no longer impacts the determination of the benefit obligation.

Weighted average assumptions used to determine net periodic benefit cost for pension and other postretirement benefit plans were as follows:

	2023		2022		2021	
Discount rate to calculate service cost ⁽¹⁾	5.50	%	2.80	%	2.80	%
Discount rate to calculate interest cost ⁽¹⁾	5.30	%	2.50	%	2.10	%
Expected long-term rate of return on plan assets	6.70	%	6.70	%	6.20	%
Cash balance plan interest crediting rate	3.00	%	3.00	%	3.00	%

⁽¹⁾ In all periods presented, the respective global discount rates were used to determine net periodic benefit cost for most pension plans for the full annual period. The discount rates for certain plans were updated during 2023, 2022, and 2021 to reflect the remeasurement of these plans due to settlements and/or curtailments. The weighted-average rates reflecting these remeasurements does not significantly differ from the rates presented.

The expected long-term rate of return on plan assets ("EROA") is generally applied to a five-year market-related value of plan assets. The process used by management to develop this assumption is one that relies on a combination of historical asset return information and forward-looking returns by asset class. As it relates to historical asset return information, management focuses on various historical moving averages when developing this assumption. While consideration is given to recent performance and historical returns, the assumption represents a long-term, prospective return. Management also incorporates expected future returns on current and planned asset allocations using information from various external investment managers and consultants, as well as management's own judgment.

For 2024, management anticipates that approximately 7% will continue to be the expected long-term rate of return for global plan assets. EROA assumptions are developed by country. Annual changes in the weighted average EROA are impacted by the relative size of the assets by country.

For 2023, 2022, and 2021, the U.S. expected long-term rate of return used by management was based on the prevailing and planned strategic asset allocations, as well as estimates of future returns by asset class. These rates were within the respective range of the 20-year moving average of actual performance and the expected future return developed by asset class.

Assumed health care cost trend rates for U.S. other postretirement benefit plans were as follows:

	2023		2022		2021	
Health care cost trend rate assumed for next year	5.50	%	5.50	%	5.50	%
Rate to which the cost trend rate gradually declines	4.50	%	4.50	%	4.50	%
Year that the rate reaches the rate at which it is assumed to remain	2026		2025		2024	

The assumed health care cost trend rate is used to measure the expected cost of gross eligible charges covered by Howmet's other postretirement benefit plans. For 2024, a 5.50% trend rate will be used, reflecting management's best estimate of the change in future health care costs covered by the plans. The plans' actual annual health care cost trend experience over the past three years has ranged from (0.40)% to 11.30%. Management's best estimate considering actual and expected annual health care costs is to maintain the 5.50% trend rate as indicative of expected increases for future health care costs over the long-term.

Plan Assets

Howmet’s pension plans’ investment policy as of December 31, 2023 by asset class, were as follows:

Asset class	Policy range ⁽¹⁾
Equities	20–55%
Fixed income	25–55%
Other investments	15–35%

⁽¹⁾ Policy range is for U.S. plan assets only, as both the U.K. and Canadian asset investment allocations are controlled by a third-party trustee with input from Howmet.

The principal objectives underlying the investment of the pension plans' assets are to ensure that Howmet can properly fund benefit obligations as they become due under a broad range of potential economic and financial scenarios, maximize the long-term investment return with an acceptable level of risk based on such obligations, and broadly diversify investments across and within various asset classes to protect asset values against adverse movements. Specific objectives for long-term investment strategy include reducing the volatility of pension assets relative to pension liabilities, and attaining and maintaining a sufficiently funded status. The use of derivative instruments is permitted where appropriate and necessary for achieving overall investment policy objectives. The investment strategy uses long duration bonds and derivative instruments to offset a portion of the interest rate sensitivity of U.S. pension liabilities. Exposure to broad equity risk is decreased and diversified through investments in hedge funds, private equity, private credit, private real estate, high-yield bonds, global and emerging market debt, and global and emerging market equities. Investments are further diversified by strategy, asset class, geography, and sector to enhance returns and mitigate downside risk. A large number of external investment managers are used to gain broad exposure to the financial markets and to mitigate manager-concentration risk.

Investment practices comply with the requirements of the Employee Retirement Income Security Act ("ERISA") and other applicable laws and regulations.

The following section describes the valuation methodologies used to measure the fair value of pension plan assets, including an indication of the level in the fair value hierarchy in which each type of asset is generally classified (See [Note R](#) for the definition of fair value and a description of the fair value hierarchy).

Equities. These securities consist of: (i) direct investments in the stock of publicly traded U.S. and non-U.S. companies that are valued based on the closing price reported in an active market on which the individual securities are traded (generally classified in Level 1); (ii) the plans' share of commingled funds that are invested in the stock of publicly traded companies and are valued at the net asset value of shares held at December 31 (included in Level 1 and Level 2); and (iii) direct investments in long/short equity hedge funds and private equity (limited partnerships and venture capital partnerships) that are valued at net asset value.

Fixed income. These securities consist of: (i) U.S. government debt that are generally valued using quoted prices (included in Level 1); (ii) cash and cash equivalents invested in publicly-traded funds and are valued based on the closing price reported in an active market on which the individual securities are traded (generally classified in Level 1); (iii) publicly traded U.S. and non-U.S. fixed interest obligations (principally corporate bonds and debentures) and are valued through consultation and evaluation with brokers in the institutional market using quoted prices and other observable market data (included in Level 2); (iv) fixed income derivatives that are generally valued using industry standard models with market-based observable inputs (included in Level 2); and (v) cash and cash equivalents invested in institutional funds and are valued at net asset value.

Other investments. These investments include, among others: (i) real estate investment trusts that are valued based on the quoted prices and other observable market data (included in Level 2) and (ii) direct investments of discretionary and systematic macro hedge funds and private real estate (includes limited partnerships) and are valued at net asset value.

The fair value methods described above may not be indicative of net realizable value or reflective of future fair values.

Additionally, while Howmet believes the valuation methods used by the plans' trustees are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following table presents the fair value of pension plan assets classified under the appropriate level of the fair value hierarchy or net asset value:

December 31, 2023	Level 1	Level 2	Net Asset Value	Total
Equities:				
Equity securities	\$ —	\$ 85	\$ 225	\$ 310
Long/short equity hedge funds	—	—	18	18
Private equity	—	—	108	108
	\$ —	\$ 85	\$ 351	\$ 436
Fixed income:				
Intermediate and long duration government/credit	\$ 199	\$ 151	\$ —	\$ 350
Other	6	63	—	69
	\$ 205	\$ 214	\$ —	\$ 419
Other investments:				
Real estate	\$ —	\$ 5	\$ 68	\$ 73
Discretionary and systematic macro hedge funds	—	—	29	29
Other	—	—	3	3
	\$ —	\$ 5	\$ 100	\$ 105
Net plan assets ⁽¹⁾	\$ 205	\$ 304	\$ 451	\$ 960

December 31, 2022	Level 1	Level 2	Net Asset Value	Total
Equities:				
Equity securities	\$ —	\$ 133	\$ 283	\$ 416
Long/short equity hedge funds	—	—	18	18
Private equity	—	—	107	107
	\$ —	\$ 133	\$ 408	\$ 541
Fixed income:				
Intermediate and long duration government/credit	\$ 107	\$ 148	\$ —	\$ 255
Other	6	59	—	65
	\$ 113	\$ 207	\$ —	\$ 320
Other investments:				
Real estate	\$ —	\$ 3	\$ 62	\$ 65
Discretionary and systematic macro hedge funds	—	—	29	29
Other	—	—	7	7
	\$ —	\$ 3	\$ 98	\$ 101
Net plan assets ⁽²⁾	\$ 113	\$ 343	\$ 506	\$ 962

- (1) As of December 31, 2023, the total fair value of pension plans' assets excludes a net payable of \$35, which represents securities purchased and sold but not yet settled plus interest and dividends earned on various investments.
- (2) As of December 31, 2022, the total fair value of pension plans' assets excludes a net receivable of \$8, which represents securities purchased and sold but not yet settled plus interest and dividends earned on various investments.

Funding and Cash Flows

It is Howmet's policy to fund amounts for pension plans sufficient to meet the minimum requirements set forth in the benefits laws and tax laws of the applicable country. Periodically, Howmet contributes additional amounts as deemed appropriate. In 2023 and 2022, cash contributions to Howmet's pension plans were \$36 and \$43, respectively.

The contributions to the Company's pension plans in 2024 are estimated to be \$52 (of which \$45 is for U.S. plans).

Due to the plan administration change of certain Medicare-eligible prescription drug benefits to an Employer Group Waiver Plan with a wrap-around secondary plan in 2021, there will be no direct Medicare Part D subsidy receipts going forward. Benefit payments expected to be paid to pension and other postretirement benefit plans' participants utilizing the current assumptions outlined above are as follows:

[illegible]

Defined Contribution Plans

Howmet sponsors savings and investment plans in various countries, primarily in the U.S. Howmet's contributions and expenses related to these plans were \$82, \$76, and \$66 in 2023, 2022, and 2021, respectively. U.S. employees may contribute a portion of their compensation to the plans, and Howmet matches a portion of these contributions in equivalent form of the investments elected by the employee. Additionally, for certain U.S. employees, Howmet makes a contribution of either a percentage of applicable eligible compensation or per hour worked.

H. Income Taxes

The components of income before income taxes were as follows:

[illegible]

The provision for income taxes consisted of the following:

For the year ended December 31,	2023	2022	2021
Current:			
Federal ⁽¹⁾	\$ 5	\$ 3	\$ (9)
Foreign	94	53	39
State and local	2	—	(2)
	101	56	28
Deferred:			
Federal	92	71	22
Foreign	16	5	11
State and local	1	5	5
	109	81	38
Total	\$ 210	\$ 137	\$ 66

⁽¹⁾ Includes U.S. taxes related to foreign income.

A reconciliation of the U.S. federal statutory rate to Howmet's effective tax rate was as follows (the effective tax rate for 2023, 2022, and 2021 was a provision on income):

For the year ended December 31,	2023	2022	2021
U.S. federal statutory rate	21.0 %	21.0 %	21.0 %
Foreign tax rate differential	(0.1)	0.1	(0.7)
U.S. and residual tax on foreign earnings ⁽¹⁾	0.6	1.2	6.5
U.S. state and local taxes, net of federal income tax effect	0.7	0.5	0.8
Non-deductible officer compensation	0.7	1.2	1.6
Statutory tax rate and law changes	(0.3)	0.1	1.0
Tax holidays	(0.4)	(0.5)	(0.4)
Tax credits ⁽²⁾	(0.7)	(0.9)	(10.4)
Changes in valuation allowances	(1.1)	1.4	4.9
Changes in uncertain tax positions ⁽³⁾	2.1	—	—
Excess benefit for stock compensation	(0.8)	(0.8)	(0.3)
Prior year tax adjustments	—	(0.1)	(3.7)
Other	(0.2)	(0.6)	0.1
Effective tax rate	21.5 %	22.6 %	20.4 %

⁽¹⁾ It is Howmet's policy to treat taxes due from future inclusions in U.S. taxable income related to GILTI as a current period expense when incurred.

⁽²⁾ In 2021, a \$32 benefit for income tax credits related to development incentives in Hungary was recognized.

⁽³⁾ In 2023, the Company recorded an income tax reserve of \$21 related to an uncertain French tax position.

The components of net deferred tax assets and liabilities were as follows:

	2023				2022			
December 31,	Deferred tax assets		Deferred tax liabilities		Deferred tax assets		Deferred tax liabilities	
Depreciation	\$	8	\$	486	\$	11	\$	492
Employee benefits		240		4		232		1
Loss provisions		28		1		26		1
Deferred income/expense		32		1,210		62		1,161
Interest		32		—		99		—
Tax loss carryforwards		2,905		—		2,955		—
Tax credit carryforwards		216		—		268		—
Other		10		4		6		6
	\$	3,471	\$	1,705	\$	3,659	\$	1,661
Valuation allowance		(1,821)		—		(1,965)		—
Total	\$	1,650	\$	1,705	\$	1,694	\$	1,661

The following table details the expiration periods of the deferred tax assets presented above:

December 31, 2023	Expires within 10 years	Expires within 11-20 years	No Expiration ⁽¹⁾	Other ⁽²⁾	Total
Tax loss carryforwards	\$ 330	\$ 533	\$ 2,042	\$ —	\$ 2,905
Tax credit carryforwards	159	45	12	—	216
Other ⁽³⁾	—	—	314	36	350
Valuation allowance	(450)	(234)	(1,131)	(6)	(1,821)
Total	\$ 39	\$ 344	\$ 1,237	\$ 30	\$ 1,650

⁽¹⁾ Deferred tax assets with no expiration may still have annual limitations on utilization.

⁽²⁾ Other represents deferred tax assets whose expiration is dependent upon the reversal of the underlying temporary difference.

⁽³⁾ A substantial amount of Other deferred tax assets relates to employee benefits that will become deductible for tax purposes in jurisdictions with unlimited expiration over an extended period of time as contributions are made to employee benefit plans and payments are made to retirees.

The total deferred tax asset (net of valuation allowance) is supported by projections of future taxable income exclusive of reversing temporary differences (3%), and taxable temporary differences that reverse within the carryforward period (97%).

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50%) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and Howmet's experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may

not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance. Existing valuation allowances are re-examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any, is released. Deferred tax assets and liabilities are also remeasured to reflect changes in underlying tax rates due to law changes and the granting and lapse of tax holidays.

It is Howmet's policy to apply a tax law ordering approach when considering the need for a valuation allowance on net operating losses expected to offset GILTI income inclusions. Under this approach, reductions in cash tax savings are not considered as part of the valuation allowance assessment. Instead, future GILTI inclusions are considered a source of taxable income that support the realizability of deferred tax assets.

Howmet's foreign tax credits in the U.S. have a 10-year carryforward period with expirations ranging from 2024 to 2027 (as of December 31, 2023). Valuation allowances were initially established in prior years on a portion of the foreign tax credit carryforwards, primarily due to insufficient foreign source income to allow for full utilization of the credits within the expiration period. Foreign tax credits of \$20 and \$68 expired at the end of 2023 and 2022, respectively, resulting in a corresponding decrease to the valuation allowance. In 2022, the Company increased the valuation allowance by \$12 in order to fully reserve the foreign tax credit carryover after weighing all available evidence including foreign source income projections. In 2023, the Company developed a tax planning strategy that will allow for the utilization of a portion of the foreign tax credit carryover and decreased the valuation allowance by \$14, accordingly. As of December 31, 2023, the cumulative amount of the valuation allowance was \$90. The need for this valuation allowance will be reassessed on a continuous basis in future periods and, as a result, the allowance may increase or decrease based on changes in facts and circumstances.

The Company recorded a net \$2 decrease, \$1 decrease, and \$3 increase to U.S. state valuation allowances in 2023, 2022, and 2021, respectively. After weighing all available positive and negative evidence, the Company determined the adjustments based on the underlying net deferred tax assets that were more likely than not realizable based on projected taxable income. Changes in fully reserved U.S. state tax losses, credits and other deferred tax assets resulting from expirations, audit adjustments, tax rate, and tax law changes also resulted in a corresponding net \$49 decrease, \$142 decrease, and \$20 increase in the valuation allowance in 2023, 2022, and 2021, respectively. Valuation allowances of \$438 remain against state deferred tax assets expected to expire before utilization. The need for valuation allowances against state deferred tax assets will be reassessed on a continuous basis in future periods and, as a result, the allowance may increase or decrease based on changes in facts and circumstances.

In 2022, after weighing all available evidence, the Company released a \$6 valuation allowance in the U.K. related to interest deduction carryforwards. In 2021, after weighing all available evidence, the Company recognized a discrete income tax cost to establish a valuation allowance of \$8 in Switzerland. The need for valuation allowances will be reassessed by entity and by jurisdiction on a continuous basis in future periods and, as a result, the allowances may increase or decrease based on changes in facts and circumstances.

The following table details the changes in the valuation allowance:

December 31,	2023	2022	2021
Balance at beginning of year	\$ 1,965	\$ 2,279	\$ 2,307
Increase to allowance	21	40	113
Release of allowance	(198)	(154)	(94)
Acquisitions, divestitures and liquidations	(16)	—	—
Tax apportionment, tax rate and tax law changes	(11)	(110)	63
Foreign currency translation	60	(90)	(110)
Balance at end of year	\$ 1,821	\$ 1,965	\$ 2,279

Foreign U.S. GAAP earnings that have not otherwise been subject to U.S. tax, will generally be exempt from future U.S. tax under the 2017 Act when distributed. Such distributions, as well as distributions of previously taxed foreign earnings, could potentially be subject to U.S. state tax in certain states, and foreign withholding taxes. Foreign currency gains/losses related to the translation of previously taxed earnings from functional currency to U.S. dollars could also be subject to U.S. tax when distributed. Howmet would expect the potential withholding tax, U.S. state tax, and U.S. capital gains tax impacts to be immaterial and the potential deferred tax liability associated with future currency gains to be impracticable to determine.

Howmet and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. With a few minor exceptions, Howmet is no longer subject to income tax examinations by tax authorities for years prior to 2014. All U.S. tax years prior to 2023 have been audited by the Internal Revenue Service. Various state and foreign jurisdiction tax authorities are in the process of examining the Company's income tax returns for various tax years through 2022. The Company had net cash income tax payments of \$104, \$50, and \$53 in 2023, 2022, and 2021, respectively.

A reconciliation of the beginning and ending amount of unrecognized tax benefits (excluding interest and penalties) was as follows:

December 31,	2023		2022		2021	
Balance at beginning of year	\$	2	\$	2	\$	2
Additions for tax positions of the current year		1		—		—
Additions for tax positions of prior years		13		—		—
Balance at end of year	\$	16	\$	2	\$	2

For all periods presented, a portion of the balance pertains to state tax liabilities, which are presented before any offset for federal tax benefits. The effect of unrecognized tax benefits, if recorded, that would impact the annual effective tax rate for 2023, 2022, and 2021 would be 2%, less than 1%, and 1%, respectively, of pre-tax book income. Howmet does not anticipate that changes in its unrecognized tax benefits will have a material impact on the Statement of Consolidated Operations during 2024.

It is Howmet's policy to recognize interest and penalties related to income taxes as a component of the Provision for income taxes in the Statement of Consolidated Operations. Howmet recognized interest of \$7, less than \$1, and less than \$1 in 2023, 2022, and 2021, respectively. Due to the expiration of the statute of limitations, settlements with tax authorities, reductions in prior accruals, and refunded overpayments, Howmet recognized interest income of \$2, less than \$1, and \$3 in 2023, 2022, and 2021, respectively. As of December 31, 2023, 2022, and 2021, the amount accrued for the payment of interest and penalties was \$11, less than \$1, and less than \$1, respectively.

I. Preferred and Common Stock

Preferred Stock. Howmet has two classes of preferred stock: \$3.75 Cumulative Preferred Stock ("Class A Preferred Stock") and Class B Serial Preferred Stock. Class A Preferred Stock has 660,000 shares authorized at a par value of \$100 per share with an annual \$3.75 cumulative dividend preference per share. There were 546,024 shares of Class A Preferred Stock outstanding as of both December 31, 2023 and 2022. Class B Serial Preferred Stock has 10,000,000 shares authorized at a par value of \$1 per share. There were no shares of Class B Serial Preferred Stock outstanding as of both December 31, 2023 and 2022.

Common Stock. As of December 31, 2023, there were 600,000,000 shares authorized at a par value of \$1 per share, and 409,914,461 shares issued and outstanding. Dividends paid were \$0.17 per share in 2023 (\$0.04 per share in each of the first, second, and third quarters of 2023 and \$0.05 per share in the fourth quarter of 2023), \$0.10 per share in 2022 (\$0.02 per share in each of the first, second, and third quarters of 2022 and \$0.04 per share in the fourth quarter of 2022), and \$0.04 per share in 2021 (\$0.02 per share in each of the third and fourth quarters of 2021).

As of December 31, 2023, 47 million shares of common stock were reserved for issuance under Howmet's stock-based compensation plans. As of December 31, 2023, 26 million shares remain available for issuance. Howmet issues new shares to satisfy the exercise of stock options and the conversion of stock awards.

Common Stock Outstanding and Share Activity (number of shares)

Balance at December 30, 2020	432,906,377
Issued for stock-based compensation plans	2,195,681
Repurchase and retirement of common stock	(13,410,146)
Balance at December 31, 2021	421,691,912
Issued for stock-based compensation plans	1,819,651
Repurchase and retirement of common stock	(11,356,506)
Balance at December 31, 2022	412,155,057
Issued for stock-based compensation plans	2,993,340
Repurchase and retirement of common stock	(5,233,936)
Balance at December 31, 2023	409,914,461

The following table provides details for share repurchases during 2023, 2022, and 2021:

	Number of shares	Average price per share⁽¹⁾	Total
Q1 2023 open market repurchase	576,629	\$43.36	\$25
Q2 2023 open market repurchase	2,246,294	\$44.52	\$100
Q3 2023 open market repurchase	506,800	\$49.32	\$25
Q4 2023 open market repurchase	1,904,213	\$52.52	\$100
2023 Share repurchase total	5,233,936	\$47.76	\$250
Q1 2022 open market repurchase	5,147,307	\$34.00	\$175
Q2 2022 open market repurchase	1,770,271	\$33.89	\$60
Q3 2022 open market repurchase	2,764,846	\$36.17	\$100
Q4 2022 open market repurchase	1,674,082	\$38.83	\$65
2022 Share repurchase total	11,356,506	\$35.22	\$400
Q2 2021 accelerated share repurchase	5,878,791	\$34.02	\$200
Q3 2021 open market repurchase	769,274	\$32.50	\$25
Q4 2021 open market repurchase	6,762,081	\$30.32	\$205
2021 Share repurchase total	13,410,146	\$32.07	\$430

⁽¹⁾ Excludes commissions cost.

The total value of shares repurchased during 2023, 2022, and 2021 were \$250, \$400, and \$430, respectively. All of the shares repurchased during 2023, 2022, and 2021 were immediately retired. After giving effect to the share repurchases made through December 31, 2023, approximately \$697 remained available for share repurchases as of January 1, 2024 under the prior authorizations by the Board. Under the Company's share repurchase program (the "Share Repurchase Program"), the Company may repurchase shares by means of trading plans established from time to time in accordance with Rule 10b5-1 under the

Securities Exchange Act of 1934, as amended, block trades, private transactions, open market repurchases and/or accelerated share repurchase agreements, or other derivative transactions. There is no stated expiration for the Share Repurchase Program. Under its Share Repurchase Program, the Company may repurchase shares from time to time, in amounts, at prices, and at such times as the Company deems appropriate, subject to market conditions, legal requirements and other considerations. The Company is not obligated to repurchase any specific number of shares or to do so at any particular time, and the Share Repurchase Program may be suspended, modified, or terminated at any time without prior notice.

The Inflation Reduction Act of 2022 imposes a 1% excise tax on net stock repurchases after December 31, 2022. The Company recorded \$1 to additional capital for excise tax on net repurchases in 2023.

Stock-Based Compensation

Howmet has a stock-based compensation plan under which stock options and/or restricted stock unit awards are granted, generally, in the first half of each year to eligible employees. Stock options are granted at the closing market price of Howmet's common stock on the date of grant and typically vest over a three-year service period (1/3 each year) with a ten-year contractual term. Restricted stock unit awards typically vest over a three-year service period from the date of grant. As part of Howmet's stock-based compensation plan design, individuals who are retirement-eligible have a six-month requisite service period in the year of grant. Certain of the restricted stock unit awards include performance and market conditions and are granted to certain eligible employees. For annual performance stock awards, the final number of shares earned will be based on Howmet's achievement of profitability targets over the respective performance periods and will be earned at the end of the third year. Additionally, the annual performance stock awards include a total shareholder return ("TSR") component, which depends upon relative performance against the TSRs of a group of peer companies.

In 2023, 2022, and 2021, Howmet recognized stock-based compensation expense of \$50 (\$44 after-tax), \$54 (\$49 after-tax), and \$40 (\$36 after-tax), respectively. Senior executive performance awards granted in April 2020 were modified in June 2020, resulting in incremental compensation expense of \$12, which was amortized over the remaining service period that ended April 1, 2023.

All stock-based compensation expense recorded in 2023, 2022, and 2021 relates to restricted stock unit awards. No stock-based compensation expense was capitalized in any of those years. Stock-based compensation expense was reduced by \$2 in 2021 for certain executive pre-vest cancellations, which were recorded in Restructuring and other charges within the Statement of Consolidated Operations. As of December 31, 2023, there was \$24 (pre-tax) of unrecognized compensation expense related to non-vested restricted stock unit award grants. This expense is expected to be recognized over a weighted average period of 1.5 years.

Stock-based compensation expense is based on the grant date fair value of the applicable equity grant. For restricted stock unit awards, the fair value is equivalent to the closing market price of Howmet's common stock on the date of grant. The weighted average grant date fair value per share of the 2023, 2022, and 2021 performance stock awards with a market condition including a TSR component is \$47.59, \$44.44, and \$43.41 respectively. The 2023, 2022, and 2021 performance awards were valued using a Monte Carlo model. A Monte Carlo simulation uses assumptions of stock price behavior to estimate the probability of satisfying market conditions and the resulting fair value of the award. The risk-free interest rate (4.4% in 2023, 2.0% in 2022, and 0.2% in 2021) was based on a yield curve of interest rates at the time of the grant based on the remaining performance period. In 2023, 2022, and 2021, volatility of 39.0%, 39.4%, and 56.0%, respectively, was estimated using Howmet's historical volatility in 2023 and 2022 and a blended rate of Howmet's historical volatility and a peer-based volatility in 2021 due to changes in the nature of the business. Stock options were last granted in 2018.

The activity for stock options and stock awards during 2023 was as follows (options and awards in millions in the table below):

	Stock options			Stock awards		
	Number of options	Weighted average exercise price per option		Number of awards	Weighted average FMV per award	
Outstanding, December 31, 2022	0.9	\$ 23.86		6.5	\$ 17.77	
Granted	—	—		0.6	45.25	
Exercised	(0.4)	25.14		—	—	
Converted	—	—		(4.3)	10.31	
Expired or forfeited	—	—		(0.1)	34.88	
Performance share adjustment	—	—		0.3	21.33	
Outstanding, December 31, 2023	0.5	\$ 22.67		3.0	\$ 34.23	

As of December 31, 2023, the stock options outstanding had a weighted average remaining contractual life of 1.7 years and a total intrinsic value of \$15. All of the stock options outstanding were fully vested and exercisable. In 2023, 2022, and 2021, the cash received from stock option exercises was \$11, \$16, and \$22, respectively, and the total tax benefit realized from these exercises was \$2, \$2, and \$2, respectively. The total intrinsic value of stock options exercised during 2023, 2022, and 2021 was \$9, \$10, and \$10, respectively. The total intrinsic value of stock awards converted during 2023, 2022, and 2021 was \$187, \$61, and \$55, respectively.

J. Earnings Per Share

Basic earnings per share (“EPS”) amounts are computed by dividing earnings, after the deduction of preferred stock dividends declared, by the average number of common shares outstanding. Diluted EPS amounts assume the issuance of common stock for all potentially dilutive share equivalents outstanding.

The information used to compute basic and diluted EPS attributable to Howmet common shareholders was as follows (shares in millions in the table below):

[illegible]

Common stock outstanding as of December 31, 2023, 2022, and 2021 was approximately 410 million, 412 million, and 422 million, respectively.

The approximately 4 million decrease in average shares outstanding (basic) for the year ended December 31, 2023 compared to the year ended December 31, 2022 was primarily due to the approximately 5 million shares repurchased during 2023. As average shares outstanding are used in the calculation for both basic and diluted EPS, the full impact of share repurchases was not fully realized in EPS in the period of repurchase since share repurchases may occur at varying points during a period.

There were no shares relating to outstanding stock options excluded from the calculation of average shares outstanding - diluted during 2023, 2022, and 2021.

K. Accumulated Other Comprehensive Loss

The following table details the activity of the three components that comprise Accumulated other comprehensive loss:

	2023			2022			2021		
Pension and other postretirement benefits (G)									
Balance at beginning of period	\$	(653)		\$	(799)		\$	(980)	
Other comprehensive (loss) income:									
Unrecognized net actuarial (loss) gain and prior service cost/benefit		(68)			87			111	
Tax benefit (expense)		15			(18)			(26)	
Total Other comprehensive (loss) income before reclassifications, net of tax		(53)			69			85	
Amortization of net actuarial loss and prior service cost ⁽¹⁾		21			99			123	
Tax expense ⁽²⁾		(4)			(22)			(27)	
Total amount reclassified from Accumulated other comprehensive loss, net of tax ⁽³⁾		17			77			96	
Total Other comprehensive (loss) income		(36)			146			181	
Balance at end of period	\$	(689)		\$	(653)		\$	(799)	
Foreign currency translation									
Balance at beginning of period	\$	(1,193)		\$	(1,062)		\$	(966)	
Other comprehensive income (loss) ⁽⁴⁾		57			(131)			(96)	
Balance at end of period	\$	(1,136)		\$	(1,193)		\$	(1,062)	
Cash flow hedges									
Balance at beginning of period	\$	5		\$	(2)		\$	3	
Other comprehensive (loss) income:									
Net change from periodic revaluations		(19)			(8)			20	
Tax benefit (expense)		4			2			(4)	
Total Other comprehensive (loss) income before reclassifications, net of tax		(15)			(6)			16	
Net amount reclassified to earnings		6			17			(26)	
Tax (expense) benefit ⁽²⁾		(1)			(4)			5	
Total amount reclassified from Accumulated other comprehensive income (loss), net of tax ⁽³⁾		5			13			(21)	
Total Other comprehensive (loss) income		(10)			7			(5)	
Balance at end of period	\$	(5)		\$	5		\$	(2)	
Accumulated other comprehensive loss balance at end of period	\$	(1,830)		\$	(1,841)		\$	(1,863)	

- (1) These amounts were recorded in Restructuring and other charges (See [Note D](#)) and Other expense, net (See [Note F](#)) in the Statement of Consolidated Operations.
- (2) These amounts were included in Provision for income taxes (See [Note H](#)) in the Statement of Consolidated Operations.
- (3) A positive amount indicates a corresponding charge to earnings and a negative amount indicates a corresponding benefit to earnings.
- (4) In all periods presented, no amounts were reclassified to earnings.

L. Receivables

Sale of Receivables Programs

The Company maintains an accounts receivables securitization arrangement through a wholly-owned special purpose entity (“SPE”). The net cash funding from the sale of accounts receivable was neither a use of cash nor a source of cash during 2023 or 2022.

The accounts receivables securitization arrangement is one in which the Company, through an SPE, has a receivables purchase agreement (the “Receivables Purchase Agreement”) pursuant to which the SPE may sell certain receivables to financial institutions until the earlier of January 2, 2026 or a termination event. The Receivables Purchase Agreement contains customary representations and warranties, as well as affirmative and negative covenants. Pursuant to the Receivables Purchase Agreement,

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the Company does not maintain effective control over the transferred receivables, and therefore accounts for these transfers as sales of receivables. The Receivables Purchase Agreement was previously amended on February 17, 2023 to update the reference rate and reduce the facility limit to \$250 from \$325, with a provision that allows the Company to increase the limit to \$325.

The facility limit under the Receivables Purchase agreement was \$250 and \$325 as of December 31, 2023 and December 31, 2022, respectively, of which \$250 was drawn at both December 31, 2023 and December 31, 2022. As collateral against the sold receivables, the SPE maintains a certain level of unsold receivables, which were \$197 and \$190 as of December 31, 2023 and December 31, 2022, respectively.

The Company sold \$1,547 and \$1,799 of its receivables without recourse and received cash funding under this program during 2023 and 2022, respectively, resulting in derecognition of the receivables from the Company's Consolidated Balance Sheet. Costs associated with the sales of receivables are reflected in the Company's Statement of Consolidated Operations for the periods in which the sales occur. Cash receipts from sold receivables under the Receivables Purchase Agreement are presented within operating activities in the Statement of Consolidated Cash Flows.

Other Customer Receivable Sales

In 2023, the Company sold \$593 of certain customers' receivables in exchange for cash (of which \$158 was outstanding from customers as of December 31, 2023), the proceeds from which are presented in changes in receivables within operating activities in the Statement of Consolidated Cash Flows.

In 2022, the Company sold \$474 of certain customers' receivables in exchange for cash (of which \$126 was outstanding from customers as of December 31, 2022), the proceeds from which are presented in changes in receivables within operating activities in the Statement of Consolidated Cash Flows.

M. Inventories

[illegible]

As of December 31, 2023 and 2022, the portion of inventories valued on a LIFO basis was \$446 and \$441, respectively. If valued on an average-cost basis, total inventories would have been \$236 and \$220 higher as of December 31, 2023 and 2022, respectively. During 2023 and 2022, reductions in LIFO inventory quantities caused partial liquidations of LIFO inventory layers. These liquidations resulted in the recognition of a benefit of \$1 in 2023 and a recognition of expense of less than \$1 in 2022. In 2021, we did not have any LIFO inventory layer liquidations.

N. Properties, Plants, and Equipment, Net

[illegible]

The proceeds from the sale of the corporate headquarters in Pittsburgh, PA in June 2022 were \$44, excluding \$3 of transaction costs, and the carrying value at the time of sale was \$41. A loss of less than \$1 was recorded in Restructuring and other charges in the Statement of Consolidated Operations upon finalization of the sale in the second quarter of 2022. The Company entered into a 12-year lease with the purchaser for a portion of the property.

Depreciation expense related to Properties, plants, and equipment recorded in Provision for depreciation and amortization in the Statement of Consolidated Operations was \$236, \$227, and \$232 for the years ended December 31, 2023, 2022, and 2021, respectively.

O. Goodwill and Other Intangible Assets

The following table details the changes in the carrying amount of goodwill:

	Engine Products			Fastening Systems			Engineered Structures			Forged Wheels			Total		
Balances at December 31, 2021															
Goodwill	\$	2,868		\$	1,611		\$	306		\$	7		\$	4,792	
Accumulated impairment losses		(719)			(4)			(2)			—			(725)	
Goodwill, net		2,149			1,607			304			7			4,067	
Translation and other		(38)			(16)			—			—			(54)	
Balances at December 31, 2022															
Goodwill		2,830			1,595			306			7			4,738	
Accumulated impairment losses		(719)			(4)			(2)			—			(725)	
Goodwill, net		2,111			1,591			304			7			4,013	
Translation and other		13			9			—			—			22	
Balances at December 31, 2023															
Goodwill		2,843			1,604			306			7			4,760	
Accumulated impairment losses		(719)			(4)			(2)			—			(725)	
Goodwill, net	\$	2,124		\$	1,600		\$	304		\$	7		\$	4,035	

During the 2023 annual review of goodwill in the fourth quarter, management performed quantitative assessments on all reporting units. The estimated fair values of the reporting units exceeded their respective carrying values in excess of 50%; thus, there were no goodwill impairments. Howmet uses a DCF model to estimate the current fair value of the reporting unit, which is compared to its carrying value, when testing for impairment. Management believes forecasted cash flows are the best indicator of such fair value. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including sales growth, production costs, capital spending, and discount rate. Assumptions can vary among the reporting units. Cash flow forecasts are generally based on approved business unit operating plans for the early years and historical relationships in later years. The WACC rate for the individual reporting units is estimated with the assistance of valuation experts. The annual goodwill impairment tests in the fourth quarters of 2023, 2022, and 2021 indicated that goodwill was not impaired for any of the Company's reporting units. If actual results or external market factors decline significantly from management's estimates, future goodwill impairment charges (or the amount by which the carrying amount exceeds the reporting unit's fair value without exceeding the total amount of goodwill allocated to that reporting unit) may be necessary and could be material.

Other intangible assets were as follows:

December 31, 2023	Gross carrying amount			Accumulated amortization			Intangibles, net	
Computer software	\$	217		\$	(182)		\$	35
Patents and licenses		67			(66)			1
Other intangibles		683			(246)			437
Total amortizable intangible assets		967			(494)			473
Indefinite-lived trade names and trademarks		32			—			32
Total intangible assets, net	\$	999		\$	(494)		\$	505

December 31, 2022	Gross carrying amount	Accumulated amortization	Intangibles, net
Computer software	\$ 204	\$ (173)	\$ 31
Patents and licenses	67	(66)	1
Other intangibles	678	(221)	457
Total amortizable intangible assets	949	(460)	489
Indefinite-lived trade names and trademarks	32	—	32
Total intangible assets, net	\$ 981	\$ (460)	\$ 521

Computer software consists primarily of software costs associated with enterprise business solutions across Howmet's businesses.

Amortization expense related to the intangible assets recorded in Provision for depreciation and amortization in the Statement of Consolidated Operations was \$35, \$36, and \$36 for the years ended December 31, 2023, 2022, and 2021, respectively, and is expected to be in the range of approximately \$33 to \$38 annually from 2024 to 2028.

P. Leases

Operating lease cost includes short-term leases and variable lease payments and approximates cash paid. Operating lease cost was \$63, \$61, and \$63 in 2023, 2022, and 2021, respectively. Operating lease cost in 2023 and the second half of 2022 includes the lease for the portion of the property in Pittsburgh, PA used as the corporate headquarters.

Operating lease right-of-use assets and lease liabilities in the Consolidated Balance Sheet were as follows:

December 31,	2023	2022
Right-of-use assets classified in Other noncurrent assets	\$ 128	\$ 111
Current portion of lease liabilities classified in Other current liabilities	\$ 32	\$ 32
Long-term portion of lease liabilities classified in Other noncurrent liabilities and deferred credits	97	83
Total lease liabilities	\$ 129	\$ 115

Future minimum contractual operating lease obligations were as follows at December 31, 2023:

2024	\$ 39
2025	30
2026	23
2027	18
2028	12
Thereafter	40
Total lease payments	\$ 162
Less: Imputed interest	(33)
Present value of lease liabilities	\$ 129

Q. Debt

Debt.

December 31,	2023	2022
5.125% Notes, due 2024 ⁽¹⁾	\$ 205	\$ 1,081
6.875% Notes, due 2025 ⁽¹⁾	600	600
USD Term Loan Agreement, due 2026	200	—
JPY Term Loan Agreement, due 2026	211	—
5.900% Notes, due 2027	625	625
6.750% Bonds, due 2028	300	300
3.000% Notes, due 2029	700	700
5.950% Notes, due 2037	625	625
4.750% Iowa Finance Authority Loan, due 2042	250	250
Other, net ⁽²⁾	(10)	(19)
	3,706	4,162
Less: amount due within one year	206	—
Total long-term debt	\$ 3,500	\$ 4,162

⁽¹⁾ The 5.125% Notes, due 2024 (the “5.125% Notes”) are due in October 2024 and the 6.875% Notes, due 2025 (the “6.875% Notes”) are due in May 2025.

⁽²⁾ Includes unamortized debt discounts and unamortized debt issuance costs related to outstanding notes and bonds listed in the table above and various financing arrangements related to subsidiaries.

The principal amount of long-term debt maturing in each of the next five years is \$205 in 2024, \$600 in 2025, \$411 in 2026, \$625 in 2027, and \$300 in 2028.

Public Debt. On December 28, 2023, the Company completed an early partial redemption of its outstanding 5.125% Notes in the aggregate principal amount of \$500. Such 5.125% Notes were redeemed at par with approximately \$106 of cash on hand and approximately \$400 from the Company’s term loan facilities at an aggregate redemption price of approximately \$506, including accrued interest of approximately \$6.

On September 28, 2023, the Company completed an early partial redemption of its outstanding 5.125% Notes in the aggregate principal amount of \$200. Such 5.125% Notes were redeemed at par with cash on hand at an aggregate redemption price of approximately \$205, including accrued interest of approximately \$5.

In March 2023, the Company completed the early partial redemption of an additional \$150 aggregate principal amount of its 5.125% Notes in accordance with the terms of the notes, and paid an aggregate of \$155, including accrued interest and an early termination premium of approximately \$4 and \$1, respectively, which were recorded in Interest expense, net, and Loss on debt redemption, respectively, in the Statement of Consolidated Operations.

In January 2023, the Company repurchased approximately \$26 aggregate principal amount of its 5.125% Notes through an open market repurchase (“OMR”). The OMR was settled at slightly less than par.

In the second and fourth quarters of 2022, the Company repurchased in the open market approximately \$69 aggregate principal amount of its 5.125% Notes and paid approximately \$71, including an early termination premium of approximately \$2, which was recorded in Loss on debt redemption in the Statement of Consolidated Operations.

In the third and fourth quarters of 2021, the Company repurchased an additional \$100 aggregate principal amount of its 5.125% Notes in the open market and paid approximately \$111, including an early termination premium and accrued interest of approximately \$10 and \$1, respectively, which were recorded in Loss on debt redemption and Interest expense, net, respectively, in the Statement of Consolidated Operations.

On September 2, 2021, the Company completed a cash tender offer and repurchased approximately \$600 aggregate principal amount of its 6.875% Notes. The amount of tender premium and accrued interest associated with the notes accepted for settlement were \$105 and \$14, respectively, which were recorded in Loss on debt redemption and Interest expense, net, respectively, in the Statement of Consolidated Operations.

On September 1, 2021, the Company completed an offering of \$700 aggregate principal amount of 3.000% Notes due 2029, the proceeds of which were used to fund the cash tender offer noted above and to pay related transaction fees, including applicable premiums and expenses.

On May 3, 2021, the Company completed the early redemption of all the remaining \$476 aggregate principal amount of its 5.870% Notes due 2022 and paid an aggregate of \$503, including \$5 of accrued interest. The Company also incurred an early termination premium and other costs of \$23, which was recorded in Loss on debt redemption in the Statement of Consolidated Operations.

On January 15, 2021, the Company completed the early redemption of all the remaining \$361 aggregate principal amount of its 5.400% Notes due 2021 at par and paid \$5 in accrued interest.

The Company has the option to redeem certain of its notes and bonds in whole or part, at any time at a redemption price equal to the greater of principal amount or the sum of the present values of the remaining scheduled payments, discounted using a defined treasury rate plus a spread, plus in either case accrued and unpaid interest to the redemption date.

Term Loan Facilities. On November 22, 2023, the Company entered into (i) a U.S. Dollar Term Loan Agreement, due 2026 (the “USD Term Loan Agreement”) and (ii) a Japanese Yen Term Loan Agreement, due 2026 (the “JPY Term Loan Agreement” and, together with the USD Term Loan Agreement, the “Term Loan Agreements” and each, individually, a “Term Loan Agreement”). Capitalized terms used in this “Term Loan Facilities” section but not otherwise defined shall have the meanings given to such terms in the applicable Term Loan Agreement.

The USD Term Loan Agreement provides a \$200 senior unsecured delayed draw term loan facility (the “USD Term Loan Facility”) that matures on November 22, 2026, unless earlier terminated in accordance with the provisions of the USD Term Loan Agreement. The JPY Term Loan Agreement provides a ¥33,000 million senior unsecured delayed draw term loan facility (the “JPY Term Loan Facility” and, together with the USD Term Loan Facility, the “Term Loan Facilities”) that matures on November 22, 2026, unless earlier terminated in accordance with the provisions of the JPY Term Loan Agreement.

Each of the Term Loan Facilities is unsecured and amounts payable thereunder rank pari passu with all other unsecured, unsubordinated indebtedness of the Company. Borrowings under the USD Term Loan Facility are denominated in U.S. dollars, and borrowings under the JPY Term Loan Facility are denominated in Japanese yen. Loans under each of the Term Loan Facilities may be prepaid without premium or penalty.

Under the USD Term Loan Facility, loans bear interest at a base rate or a rate equal to Term SOFR plus adjustment, plus, in each case, an applicable margin based on the credit ratings of the Company’s outstanding senior unsecured long-term debt. Based on the Company’s current long-term debt ratings, the applicable margin on base rate loans is 0.500% per annum and the applicable margin on Term SOFR loans is 1.500% per annum.

Under the JPY Term Loan Facility, loans bear interest at a rate equal to the Cumulative Compounded RFR Rate utilizing the Tokyo Overnight Average Rate plus an applicable margin based on the credit ratings of the Company’s outstanding senior unsecured long-term debt. Based on the Company’s current long-term debt ratings, the applicable margin on loans under the JPY Term Loan Facility is 1.625% per annum.

The obligations of the Company to pay amounts outstanding under the respective Term Loan Facilities may be accelerated upon the occurrence of an “Event of Default” as defined therein. Such Events of Default include, among others, (a) non-payment of obligations; (b) breach of any representation or warranty in any material respect; (c) non-performance of covenants and obligations; (d) with respect to other indebtedness in a principal amount in excess of \$100, a default thereunder that causes such indebtedness to become due prior to its stated maturity or a default in the payment at maturity of any principal of such indebtedness; (e) the bankruptcy or insolvency of the Company; and (f) a change in control of the Company.

The Term Loan Agreements contain respective covenants, including, among others, (a) limitations on the Company’s ability to incur liens securing indebtedness for borrowed money; (b) limitations on the Company’s ability to consummate a consolidation, merger, or sale of all or substantially all of its assets; (c) limitations on the Company’s ability to change the nature of its business; and (d) a limitation requiring the ratio of Consolidated Net Debt to Consolidated EBITDA as of the end of each fiscal quarter for the period of the four fiscal quarters most recently ended, to be less than or equal to 3.75 to 1.00.

On December 27, 2023, the Company borrowed \$200 under the USD Term Loan Facility. On December 1, 2023, the Company borrowed ¥29,702 million under the JPY Term Loan Facility.

The Company entered into interest rate swaps to exchange the floating interest rates of the USD Term Loan Facility and JPY Term Loan Facility to fixed interest rates of 5.795% and 2.044%, respectively.

Credit Facility. On July 27, 2023, the Company entered into the Second Amended and Restated Five-Year Revolving Credit Agreement (as so amended and restated, the “Credit Agreement”) by and among the Company, a syndicate of lenders and issuers named therein, Citibank, N.A., as administrative agent for the lenders and issuers, and JPMorgan Chase Bank, N.A., as syndication agent. The Credit Agreement amended and restated the Company’s Amended and Restated Five-Year Revolving Credit Agreement, dated as of September 28, 2021, as amended by Amendment No. 1 to Credit Agreement, dated as of February 13, 2023.

The Credit Agreement provides a \$1,000 senior unsecured revolving credit facility (the “Credit Facility”) that matures on July 27, 2028, unless extended or earlier terminated in accordance with the provisions of the Credit Agreement. The Company may make two one-year extension requests during the term of the Credit Facility, with any extension being subject to the lender consent requirements set forth in the Credit Agreement. Subject to the terms and conditions of the Credit Agreement, the Company may from time to time request increases in commitments under the Credit Facility, not to exceed \$500 in aggregate principal amount, and may also request the issuance of letters of credit, subject to a letter of credit sublimit of \$500 of the Credit Facility. Under the provisions of the Credit Agreement, based on Howmet’s current long-term debt ratings, Howmet pays an annual fee of 0.150% of the total commitment to maintain the Credit Facility.

The Credit Facility is unsecured and amounts payable under it will rank pari passu with all other unsecured, unsubordinated indebtedness of the Company. Borrowings under the Credit Facility may be denominated in U.S. dollars or Euros. Loans will bear interest at a base rate or, in the case of U.S. dollar-denominated loans, a rate equal to the Term Secured Overnight Financing Rate (“SOFR”) plus adjustment or, in the case of euro-denominated loans, the Euro inter-bank offered rate (“EURIBOR”), plus, in each case, an applicable margin based on the credit ratings of the Company’s outstanding senior unsecured long-term debt. Based on Howmet’s current long-term debt ratings, the applicable margin on base rate loans would be 0.100% per annum and the applicable margin on Term SOFR loans and EURIBOR loans would be 1.100% per annum. The applicable margin is subject to change based on the Company’s long-term debt ratings. Loans may be prepaid without premium or penalty, subject to customary breakage costs.

The obligation of the Company to pay amounts outstanding under the Credit Facility may be accelerated upon the occurrence of an “Event of Default” as defined in the Credit Agreement. Such Events of Default include, among others, (a) non-payment of obligations; (b) breach of any representation or warranty in any material respect; (c) non-performance of covenants and obligations; (d) with respect to other indebtedness in a principal amount in excess of \$100, a default thereunder that causes such indebtedness to become due prior to its stated maturity or a default in the payment at maturity of any principal of such indebtedness; (e) the bankruptcy or insolvency of Howmet; and (f) a change in control of the Company.

The Credit Agreement contains covenants, including, among others, (a) limitations on the Company’s ability to incur liens securing indebtedness for borrowed money; (b) limitations on the Company’s ability to consummate a consolidation, merger or sale of all or substantially all of its assets; (c) limitations on the Company’s ability to change the nature of its business; and (d) a limitation requiring the ratio of Consolidated Net Debt to Consolidated EBITDA (each as defined in the Credit Agreement) as of the end of each fiscal quarter for the period of the four fiscal quarters most recently ended, to be less than or equal to 3.75 to 1.00.

There were no amounts outstanding under the Credit Agreement as of December 31, 2023 and 2022, and no amounts were borrowed during 2023, 2022 or 2021 under the Credit Agreement. As of December 31, 2023, the Company was in compliance with all covenants under the Credit Agreement. Availability under the Credit Agreement could be reduced in future periods if the Company fails to maintain the required ratio referenced above.

R. Other Financial Instruments

Fair Value. Fair value is defined 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. The fair value hierarchy distinguishes between (i) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (ii) an entity’s own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

- Level 1 - Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2 - Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or

liability (e.g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means.

- Level 3 - Inputs that are both significant to the fair value measurement and unobservable.

The carrying values of Cash and cash equivalents, restricted cash, derivatives, noncurrent receivables, Short-term debt and Long-term debt due within one year included in the Consolidated Balance Sheet approximate their fair value. The Company holds exchange-traded fixed income securities which are considered available-for-sale securities and are carried at fair value based on quoted market prices. The aforementioned securities are classified in Level 1 of the fair value hierarchy and are included in Other noncurrent assets in the Consolidated Balance Sheet. The fair value of Long-term debt, less amount due within one year was based on quoted market prices for public debt and on interest rates that are currently available to Howmet for issuance of debt with similar terms and maturities for non-public debt. The fair value amounts for all Long-term debt were classified in Level 2 of the fair value hierarchy.

	2023				2022			
December 31,	Carrying value		Fair value		Carrying value		Fair value	
Long-term debt, less amount due within one year	\$	3,500	\$	3,504	\$	4,162	\$	4,059

Restricted cash was less than \$1, \$1, and \$2 in 2023, 2022, and 2021, respectively, and was recorded in Prepaid expenses and other current assets in the Consolidated Balance Sheet.

S. Cash Flow Information

Cash paid for interest and income taxes was as follows:

	2023		2022		2021	
Interest, net of amounts capitalized	\$	221	\$	224	\$	267
Income taxes, net of amounts refunded	\$	104	\$	50	\$	53

The Company incurred capital expenditures which remain unpaid at December 31, 2023, 2022, and 2021 of \$72, \$55, and \$49, respectively, and will result in cash outflows within investing activities in the Statement of Consolidated Cash Flows in subsequent periods.

In September 2022, the FASB issued guidance to enhance the transparency of disclosures regarding supplier finance programs. These changes became effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, except for the amendment on rollforward information, which is effective for fiscal years beginning after December 15, 2023.

On January 1, 2023, the Company adopted the changes issued by the FASB related to disclosure requirements of supplier finance program obligations. We offer voluntary supplier finance programs to suppliers who may elect to sell their receivables to third parties at the sole discretion of both the supplier and the third parties. The program is at no cost to the Company and provides additional liquidity to our suppliers, if they desire, at their cost. Under these programs, the Company pays the third party bank, rather than the supplier, the stated amount of the confirmed invoices on the original maturity date of the invoices. The Company or the third party bank may terminate a program upon at least 30 days' notice. Supplier invoices under the program require payment in full no more than 120 days of the invoice date. As of December 31, 2023 and 2022, supplier invoices that are subject to future payment under these programs were \$258 and \$240, respectively, and are included in Accounts payable, trade in the Consolidated Balance Sheet.

T. Divestitures

2021 Divestiture

On March 15, 2021, the Company reached an agreement to sell a small manufacturing plant in France within the Fastening Systems segment, which resulted in a charge of \$4 related to the non-cash impairment of the net book value of the business, primarily goodwill, in the first quarter of 2021 which was recorded in Restructuring and other charges in the Statement of Consolidated Operations. On June 1, 2021, the Company completed the sale for \$10 (of which \$8 of cash was received in the second quarter of 2021). The Company received the remaining \$2 in the third quarters of 2022 and 2023.

U. Contingencies and Commitments

Contingencies

Environmental Matters. Howmet participates in environmental assessments and/or cleanups at more than 30 locations. These include owned or operating facilities and adjoining properties, previously owned or operated facilities and adjoining properties, and waste sites, including Superfund (Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”)) sites.

A liability is recorded for environmental remediation when a cleanup program becomes probable and the costs can be reasonably estimated. As assessments and cleanups proceed, the liability is adjusted based on progress made in determining the extent of remedial actions and related costs. The liability can change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, and technological changes, among others.

The Company's remediation reserve balance was \$17 and \$16 as of December 31, 2023 and 2022, respectively, and was recorded in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet (of which \$7 and \$6, respectively, were classified as a current liability), and reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated. Payments related to remediation expenses applied against the reserve were \$3 and \$4 in 2023 and 2022, respectively, and included expenditures currently mandated, as well as those not required by any regulatory authority or third party.

Included in annual operating expenses are the recurring costs of managing hazardous substances and environmental programs. These costs are estimated to be less than 1% of Cost of goods sold.

Tax. In December 2013 and 2014, the Company received audit assessment notices from the French Tax Authority ("FTA") for the 2010 through 2012 tax years. In 2016, the Company appealed to the Committee of the Abuse of Tax Law, where it received a favorable nonbinding decision. The FTA disagreed with the Committee of the Abuse of Tax Law's opinion, and the Company appealed to the Montreuil Administrative Court, where in 2020 the Company prevailed on the merits. The FTA appealed this decision to the Paris Administrative Court of Appeal in 2021. On March 31, 2023, the Company received an adverse decision from the Paris Administrative Court of Appeal. The Company appealed this decision to the French Administrative Supreme Court. The assessment amount is \$18 (€16 million), including interest up through 2017 and penalties. The Company estimates the additional interest assessment up through 2023 to be \$2 (€2 million).

As a result of the adverse decision from the Paris Administrative Court of Appeal, the Company has concluded that it is no longer more likely than not to sustain its position. In 2023, the Company recorded an income tax reserve in Provision for income taxes in the Statement of Consolidated Operations of \$21 (€19 million), which includes estimated interest and penalties, for the 2010 through 2012 tax years, as well as the remaining tax years open for reassessment (2020-2023). In accordance with FTA dispute resolution practices, the Company paid the assessment amount to the FTA in December 2023 and is expecting to pay the additional interest assessment in 2024. The Company also paid the estimated tax related to the remaining open tax years during 2023. If an appeal to the French Administrative Supreme Court is successful, any payment would be refunded with interest.

Indemnified Matters. The Separation and Distribution Agreement, dated October 31, 2016, that the Company entered into with Alcoa Corporation in connection with its separation from Alcoa Corporation, provides for cross-indemnities between the Company and Alcoa Corporation for claims subject to indemnification. The Separation and Distribution Agreement, dated March 31, 2020, that the Company entered into with Arconic Corporation in connection with its separation from Arconic Corporation, provides for cross-indemnities between the Company and Arconic Corporation for claims subject to indemnification. Among other claims that are covered by these indemnities, Arconic Corporation indemnifies the Company (f/k/a Arconic Inc. and f/k/a Alcoa Inc.) for all potential liabilities associated with the fire that occurred at the Grenfell Tower in London, U.K. on June 14, 2017 ("Grenfell Fire"), including the following:

(i) Regulatory Investigations. Arconic Architectural Products SAS ("AAP SAS") (now a subsidiary of Arconic Corporation) supplied Reynobond PE to its customer who used the product as one component of the overall cladding system on Grenfell Tower. Regulatory Investigations into the overall Grenfell Fire are being conducted, including a criminal investigation by the London Metropolitan Police Service and a Public Inquiry by the British government (regarding which AAP SAS is a participant) (together, the "U.K. Proceedings"). (ii) United Kingdom Litigation. On December 23, 2020, survivors and estates of decedents of the Grenfell Fire and emergency responders filed suit against 23 defendants, including the Company. The substantial majority of these suits were settled pursuant to the terms of a confidential settlement agreement and are now discontinued and closed. Those suits that have not been settled are stayed until the next case management conference, which will be heard on December 10, 2024. In December 2023, the Royal Borough of Kensington and Chelsea indicated that they plan to join Howmet as a party to proceedings currently pending against AAP SAS and Whirlpool arising out of the Grenfell Tower fire. That pending proceeding is stayed until December 20, 2024. (iii) Behrens et al. v. Arconic Inc. et al. (United States District Court for the Eastern District of Pennsylvania). On June 6, 2019, 247 survivors and estates of decedents of the Grenfell Fire filed a complaint against Arconic Inc., Alcoa Inc. and Arconic Architectural Products, LLC (now a subsidiary of Arconic Corporation), among others, for product liability and wrongful death. In September 2020, the court dismissed the U.S. case, determining that the U.K. is the appropriate jurisdiction. The Third Circuit Court of Appeals affirmed the dismissal in July 2022, and the U.S. Supreme Court denied the plaintiffs' petition for a writ of certiorari in February 2023. This case is dismissed and closed. (iv) Howard v. Arconic Inc. et al. (United States District Court for the Western District of Pennsylvania). In 2017, two purported class actions were filed against Arconic Inc., Klaus Kleinfeld and

other former Arconic Inc. executives and directors, and certain banks. The actions, which later were consolidated, alleged violations of the federal securities laws relating to the Grenfell Fire. In June 2021, the court ruled that certain claims can proceed and dismissed all other claims with prejudice.

Following mediation, the parties reached a settlement, which was approved by the court in August 2023, in the amount of \$74 to be covered by insurance proceeds in exchange for the dismissal of the action and a release of all claims against the defendants, which did not admit fault or wrongdoing. This case is dismissed and closed. (v) *Raul v. Albaugh, et al.* (United States District Court for the District of Delaware). On June 22, 2018, a derivative complaint was filed nominally on behalf of Arconic Inc. by a purported Arconic Inc. stockholder against the then members of Arconic Inc.'s Board of Directors, Klaus Kleinfeld and Ken Giacobbe, naming Arconic Inc. as a nominal defendant. The complaint asserts claims under federal securities laws, most of which are similar to those in *Howard*, as well as claims under Delaware state law for breaches of fiduciary duty, gross mismanagement and abuse of control, and also alleges that the defendants improperly authorized the sale of Reynobond PE for unsafe uses. The *Raul* case had been stayed until the final resolution of the *Howard* case and the U.K. Proceedings. On December 6, 2023, the defendants moved the court for an order lifting the stay. The motion is currently pending.

Legal Proceedings.

Lehman Brothers International (Europe) Legal Proceeding. On June 26, 2020, Lehman Brothers International (Europe) ("LBIE") filed proceedings in the High Court of Justice, Business and Property Courts of England and Wales (the "Court") against two subsidiaries of the Company, FR Acquisitions Corporation (Europe) Ltd and JFB Firth Rixson Inc. (collectively, the "Firth Rixson Entities"). The proceedings concerned two interest rate swap transactions that the Firth Rixson Entities entered into with LBIE in 2007 and 2008. As a result of the ruling issued by the Court in October 2022, the Company recorded \$65 in Other current liabilities in the Consolidated Balance Sheet and took a pre-tax charge of this amount in Other expense, net in the Statement of Consolidated Operations in the third quarter of 2022. The Firth Rixson Entities appealed the Court's ruling. On June 15, 2023, the Company, the Firth Rixson Entities, and LBIE reached a full and final settlement of all claims arising out of the proceedings. The settlement provides for a payment of \$40 to be paid to LBIE in two installments: \$15 paid in July 2023 and \$25 payable in July 2024. As a result of the settlement, \$25 of the amount previously recorded for the Litigation as a pre-tax charge in Other expense, net was reversed as a credit to Other expense, net in the Company's second quarter 2023 results.

Lockheed Martin Corp. v. Howmet Aerospace Inc. On November 30, 2023, Lockheed Martin Corporation ("Lockheed Martin") filed a complaint in federal district court in the Northern District of Texas (the "District Court") against the Company and its subsidiary RTI Advanced Forming, Inc. ("RTI") as defendants. The complaint alleges that the Company and RTI breached a Master Purchase Order ("MPO") between Lockheed Martin and RTI related to the F-35 Joint Strike Fighter production program between Lockheed Martin and the United States government (the "F-35 Program") by seeking a fair market price adjustment for the provision of titanium mill products under RTI's separate agreements with Lockheed Martin's subcontractors for the F-35 Program (the "Qualified Suppliers"). The complaint also alleges that RTI's decision to not provide Lockheed Martin and its suppliers with titanium products violates the Defense Production Act of 1950. As part of the litigation, Lockheed Martin sought a temporary restraining order and preliminary injunction requiring the Company and RTI to perform under the terms of the MPO while the litigation is pending. The District Court granted a temporary restraining order on December 12, 2023. After expedited discovery and a hearing on December 26, 2023, however, the District Court denied Lockheed Martin's motion for a preliminary injunction on December 29, 2023. On January 11, 2024, the District Court entered a scheduling order setting trial for the four-week docket beginning July 22, 2024 and ordering mandatory mediation, which is scheduled for March 11, 2024. On January 19, 2024, RTI filed counterclaims against Lockheed Martin alleging breach of a clause in the MPO that, in RTI's view, requires "revert" (reusable scrap titanium) to be made available to RTI from the F-35 Program (the "Revert Clause"), and seeking a declaratory judgment that RTI is not obligated to supply titanium mill products at the MPO prices due to Lockheed Martin's breach of the Revert Clause. RTI's counterclaim also alleges Lockheed Martin's tortious interference with RTI's contracts and business relations with the Qualified Suppliers. On February 12, 2024, the District Court granted Lockheed Martin leave to file an amended complaint, adding, in relevant part, a claim against the Company and RTI for anticipatory breach for an alleged refusal to agree to a four-year extension option under the MPO that Howmet rejected.

The Company and RTI are vigorously contesting this case and, contrary to Lockheed Martin's assertions, take their contractual and regulatory obligations seriously and believe that RTI has complied with those obligations in all material respects. The Company has not recorded any liability for this matter as it does not believe a loss is probable or reasonably estimable at this time.

Other. In addition to the matters discussed above, various other lawsuits, claims, and proceedings have been or may be instituted or asserted against the Company, including those pertaining to environmental, product liability, safety and health, employment, tax and antitrust matters. While the amounts claimed in these other matters may be substantial, the ultimate liability cannot currently be determined because of the considerable uncertainties that exist. Therefore, it is possible that the Company's liquidity or results of operations in a period could be materially affected by one or more of these other matters. However, based on facts currently available, management believes that the disposition of these other matters that are pending or asserted will not have a material adverse effect, individually or in the aggregate, on the results of operations, financial position or cash flows of the Company.

Commitments

Purchase & Other Obligations. Howmet has entered into commitments for raw materials, energy and other obligations, which total \$244 in 2024, \$32 in 2025, \$11 in 2026, and none in 2027, 2028 and thereafter.

Operating Leases. See [Note P](#) for the operating lease future minimum contractual obligations.

Guarantees. As of December 31, 2023, Howmet had outstanding bank guarantees related to tax matters, outstanding debt, workers' compensation, environmental obligations, and customs duties, among others. The total amount committed under these guarantees, which expire at various dates between 2024 and 2040, was \$24 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreement, dated as of October 31, 2016, between Howmet and Alcoa Corporation, Howmet was required to provide certain guarantees for Alcoa Corporation, which had a fair value of \$6 as of both December 31, 2023 and 2022, and were included in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet. The remaining guarantee, for which the Company and Arconic Corporation are secondarily liable in the event of a payment default by Alcoa Corporation, relates to a long-term energy supply agreement that expires in 2047 at an Alcoa Corporation facility. The Company currently views the risk of an Alcoa Corporation payment default on its obligations under the contract to be remote. The Company and Arconic Corporation are required to provide a guarantee up to an estimated present value amount of approximately \$1,131 and \$1,040 as of December 31, 2023 and 2022, respectively, in the event of an Alcoa Corporation default. In December 2021, December 2022, and December 2023, a surety bond with a limit of \$80 relating to this guarantee was obtained by Alcoa Corporation to protect Howmet's obligation. This surety bond will be renewed on an annual basis by Alcoa Corporation.

Letters of Credit. The Company has outstanding letters of credit, primarily related to workers' compensation, environmental obligations, and insurance obligations, among others. The total amount committed under these letters of credit, which automatically renew or expire at various dates, mostly in 2024, was \$114 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreements between the Company and Arconic Corporation and between the Company and Alcoa Corporation, the Company is required to retain letters of credit of \$52 (which are included in the \$114 in the above paragraph) that had previously been provided related to the Company, Arconic Corporation, and Alcoa Corporation workers' compensation claims that occurred prior to the respective separation transactions of April 1, 2020 and November 1, 2016. Arconic Corporation and Alcoa Corporation workers' compensation and letters of credit fees paid by the Company are proportionally billed to, and are reimbursed by, Arconic Corporation and Alcoa Corporation, respectively. Also, the Company was required to provide letters of credit for certain Arconic Corporation environmental obligations and, as a result, the Company has \$17 of outstanding letters of credit relating to such liabilities (which are also included in the \$114 in the above paragraph). Arconic Corporation has issued surety bonds to cover these environmental obligations. Arconic Corporation is being billed for these letter of credit fees paid by the Company and will reimburse the Company for any payments made under these letters of credit.

Surety Bonds. The Company has outstanding surety bonds primarily related to tax matters, contract performance, workers' compensation, environmental-related matters, energy contracts, and customs duties. The total amount committed under these annual surety bonds, which automatically renew or expire at various dates, primarily in 2024 and 2025, was \$43 as of December 31, 2023.

Pursuant to the Separation and Distribution Agreements between the Company and Arconic Corporation and between the Company and Alcoa Corporation, the Company is required to provide surety bonds of \$21 (which are included in the \$43 in the above paragraph) that had previously been provided related to the Company, Arconic Corporation, and Alcoa Corporation workers' compensation claims that occurred prior to the respective separation transactions of April 1, 2020 and November 1, 2016. Arconic Corporation and Alcoa Corporation workers' compensation claims and surety bond fees paid by the Company are proportionately billed to, and are reimbursed by, Arconic Corporation and Alcoa Corporation.

V. Subsequent Events

Management evaluated all activity of Howmet and concluded that no subsequent events have occurred that would require recognition in the Consolidated Financial Statements or disclosure in the Notes to the Consolidated Financial Statements.

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

None.

Item 9A. Controls and Procedures.

(a) Evaluation of Disclosure Controls and Procedures

Howmet's Chief Executive Officer and Chief Financial Officer have evaluated the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as of the end of the period covered by this report, and they have concluded that these controls and procedures are effective.

(b) Management's Annual Report on Internal Control over Financial Reporting

Management's Report on Internal Control over Financial Reporting is included in [Part II, Item 8](#) of this Form 10-K beginning on page [38](#).

(c) Attestation Report of the Registered Public Accounting Firm

The effectiveness of Howmet's internal control over financial reporting as of December 31, 2023 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included in [Part II, Item 8](#) of this Form 10-K on page [39](#).

(d) Changes in Internal Control over Financial Reporting

There have been no changes in internal control over financial reporting during the fourth quarter of 2023, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

Rule 10b5-1 Trading Plans. During the three months ended December 31, 2023, none of the Company's directors or executive officers adopted or terminated any contract, instruction or written plan for the purchase or sale of Company securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) or any "non-Rule 10b5-1 trading arrangement" as defined in Item 408(c) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspection.

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by Item 401 of Regulation S-K regarding directors is contained under the caption "Item 1 Election of Directors" of the Proxy Statement and is incorporated by reference. The information required by Item 401 of Regulation S-K regarding executive officers is set forth in Part I, Item 1 of this report under "Executive Officers of the Registrant."

The information required by Item 405 of Regulation S-K is contained under the caption "Section 16(a) Beneficial Ownership Reporting Compliance" of the Proxy Statement and is incorporated by reference.

The Company's Code of Ethics for the CEO, CFO and Other Financial Professionals is publicly available on the Company's Internet website at www.howmet.com under the section "Investors—Corporate Governance—Governance and Policies." The remaining information required by Item 406 of Regulation S-K is contained under the captions "Corporate Governance" and "Corporate Governance—Code of Conduct and Code of Ethics" of the Proxy Statement and is incorporated by reference.

The information required by Items 407(c)(3), (d)(4) and (d)(5) of Regulation S-K is included under the captions "Item 1 Election of Directors—Nominating Board Candidates—Procedures and Director Qualifications" and "Corporate Governance—Committees of the Board—Audit Committee" of the Proxy Statement and is incorporated by reference.

Item 11. Executive Compensation.

The information required by Item 402 of Regulation S-K is contained under the captions "Director Compensation", "Executive Compensation" and "Corporate Governance—Recovery of Incentive Compensation" of the Proxy Statement. Such information is incorporated by reference, except as to information required pursuant to Item 402(v) of Regulation S-K relating to pay versus performance.

The information required by Items 407(e)(4) and (e)(5) of Regulation S-K is contained under the captions "Corporate Governance—Compensation Committee Interlocks and Insider Participation" and "Item 3 Advisory Approval of Executive Compensation—

Compensation Committee Report” of the Proxy Statement. Such information (other than the Compensation Committee Report, which shall not be deemed to be “filed”) is incorporated by reference.

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

The following table gives information about Howmet's common stock that could be issued under the Company's equity compensation plans as of December 31, 2023:

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders ⁽¹⁾	3,521,012 ⁽¹⁾	\$ 22.67	21,349,015 ⁽²⁾
Equity compensation plans not approved by security holders	—	—	—
Total	3,521,012	\$ 22.67	21,349,015

⁽¹⁾ Includes the 2013 Howmet Aerospace Stock Incentive Plan, as Amended and Restated (approved by shareholders in May 2019, May 2018, May 2016 and May 2013) (the "2013 Plan"). Table amounts are comprised of the following:

- 484,865 stock options
- 2,468,017 restricted share units
- 568,130 performance share awards (185,855 granted in 2023 at target)

⁽²⁾ The 2013 Plan authorizes, in addition to stock options, other types of stock-based awards in the form of stock appreciation rights, restricted shares, restricted share units, performance awards and other awards. The shares that remain available for issuance under the 2013 Plan may be issued in connection with any one of these awards. Up to 66,666,667 shares may be issued under the plan. Any award other than an option or a stock appreciation right shall count as 2.33 shares. Options and stock appreciation rights shall be counted as one share for each option or stock appreciation right. In addition, the 2013 Plan provides the following are available to grant under the 2013 Plan: (i) shares that are issued under the 2013 Plan, which are subsequently forfeited, cancelled or expire in accordance with the terms of the award and (ii) shares that had previously been issued under prior plans that are outstanding as of the date of the 2013 Plan which are subsequently forfeited, cancelled or expire in accordance with the terms of the award.

The information required by Item 403 of Regulation S-K is contained under the captions "Howmet Aerospace Stock Ownership—Stock Ownership of Certain Beneficial Owners" and "Howmet Aerospace Stock Ownership—Stock Ownership of Directors and Executive Officers" of the Proxy Statement and is incorporated by reference.

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

The information required by Item 404 of Regulation S-K is contained under the captions "Executive Compensation" (excluding the information under the caption "Compensation Committee Report") and "Corporate Governance—Related Person Transactions" of the Proxy Statement and is incorporated by reference.

The information required by Item 407(a) of Regulation S-K regarding director independence is contained under the captions "Item 1 Election of Directors" and "Corporate Governance" of the Proxy Statement and is incorporated by reference.

Item 14. Principal Accounting Fees and Services.

The information required by Item 9(e) of Schedule 14A is contained under the captions "Item 2 Ratification of Appointment of Independent Registered Public Accounting Firm—Report of the Audit Committee" and "Item 2 Ratification of Appointment of

Independent Registered Public Accounting Firm—Audit and Non-Audit Fees” of the Proxy Statement and in its Attachment A (Pre-Approval Policies and Procedures for Audit and Non-Audit Services) thereto and is incorporated by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The consolidated financial statements and exhibits listed below are filed as part of this report.

(1) The Company's consolidated financial statements, the notes thereto and the report of the Independent Registered Public Accounting Firm are on pages 39 through 82 of this report.

(2) Financial statement schedules have been omitted because they are not applicable, not required, or the required information is included in the consolidated financial statements or notes thereto.

(3) Exhibits.

Exhibit Number	Description*
<u>2(a)</u>	Separation and Distribution Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation, incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K dated November 4, 2016.
<u>2(b)</u>	Tax Matters Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation, incorporated by reference to Exhibit 2.3 to the Company's Current Report on Form 8-K dated November 4, 2016.
<u>2(c)</u>	Employee Matters Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation, incorporated by reference to Exhibit 2.4 to the Company's Current Report on Form 8-K dated November 4, 2016.
<u>2(c)(1)</u>	Amendment No. 1, dated December 13, 2016, to Employee Matters Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation, incorporated by reference to Exhibit 2(e)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2016.
<u>2(d)</u>	Alcoa Corporation to Arconic Inc. Patent, Know-How, and Trade Secret License Agreement, dated as of October 31, 2016, by and between Alcoa USA Corp. and Arconic Inc., incorporated by reference to Exhibit 2.5 to the Company's Current Report on Form 8-K dated November 4, 2016.
<u>2(d)(1)</u>	First Amendment, effective as of November 1, 2016, to the Patent, Know-How and Trade Secret License Agreement by and between Alcoa USA Corp. and Arconic Inc., incorporated by reference to Exhibit 2(d)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
<u>2(d)(2)</u>	Second Amendment, effective as of October 18, 2021, to the Patent, Know-How and Trade Secret License Agreement by and between Alcoa USA Corp. and Arconic Inc., incorporated by reference to Exhibit 2(d)(2) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
<u>2(e)</u>	Arconic Inc. to Alcoa Corporation Patent, Know-How, and Trade Secret License Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa USA Corp., incorporated by reference to Exhibit 2.6 to the Company's Current Report on Form 8-K dated November 4, 2016.
<u>2(f)</u>	Amended and Restated Alcoa Corporation to Arconic Inc. Trademark License Agreement, dated as of June 25, 2017, by and between Alcoa USA Corp. and Arconic Inc., incorporated by reference to Exhibit 2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017.
<u>2(g)</u>	Agreement and Plan of Merger, dated October 12, 2017, by and between Arconic Inc., a Pennsylvania corporation, and Arconic Inc., a Delaware corporation, incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K dated January 4, 2018.
<u>2(h)</u>	Separation and Distribution Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on April 6, 2020.
<u>2(i)</u>	Tax Matters Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.2 to the Company's Current Report on Form 8-K filed on April 6, 2020.

2(j)	Employee Matters Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.3 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(j)(1)	First Amendment to Employee Matters Agreement, dated as of April 10, 2020, by and between Howmet Aerospace Inc. and Arconic Corporation, incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on April 13, 2020.
2(k)	Patent, Know-How, and Trade Secret License Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.4 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(k)(1)	Amendment No. 1, effective as of August 25, 2020, to Patent, Know-How, and Trade Secret License Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2(m)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
2(l)	Patent, Know-How, and Trade Secret License Agreement, dated as of March 31, 2020, by and between Arconic Rolled Products Corporation and Arconic Inc., incorporated by reference to Exhibit 2.5 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(m)	Trademark License Agreement, dated as of March 31, 2020, by and between Arconic Rolled Products Corporation and Arconic Inc., incorporated by reference to Exhibit 2.6 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(n)	Trademark License Agreement, dated as of March 31, 2020, by and between Arconic Inc. and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.7 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(o)	Master Agreement for Product Supply, dated as of March 31, 2020, by and between Arconic Massena LLC, Arconic Lafayette LLC, Arconic Davenport LLC and Arconic Inc., incorporated by reference to Exhibit 2.8 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(p)	Second Supplemental Tax and Project Certificate and Agreement, effective as of April 1, 2020, by and among Arconic Inc., Arconic Davenport LLC and Arconic Rolled Products Corporation, incorporated by reference to Exhibit 2.9 to the Company's Current Report on Form 8-K filed on April 6, 2020.
2(q)	Third Supplemental Tax and Project Certificate and Agreement, effective as of January 1, 2023, by and among Howmet Aerospace Inc., Arconic US LLC and Arconic Corporation, incorporated by reference to Exhibit 2(q) to the Company's Annual Report on Form 10-K for the year ended December 31, 2022.
2(r)	Metal Supply & Tolling Agreement by and between Arconic-Köfém Mill Products Hungary Kft and Arconic-Köfém Kft, dated January 1, 2020, incorporated by reference to Exhibit 2(t) to the Company's Annual Report on Form 10-K for the year ended December 31, 2020.
3(a)	Certificate of Incorporation of Howmet Aerospace Inc., a Delaware corporation, incorporated by reference to Exhibit 3(a) to the Company's Annual Report on Form 10-K for the year ended December 31, 2020.
3(b)	Bylaws of Howmet Aerospace Inc., a Delaware corporation, incorporated by reference to Exhibit 3(b) to the Company's Annual Report on Form 10-K for the year ended December 31, 2020.
4(a)	Form of Certificate for Shares of Common Stock of Howmet Aerospace Inc. (formerly known as Arconic Inc.), a Delaware corporation, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated January 4, 2018.
4(b)	Bylaws. See exhibit 3(b) above.
4(c)	Form of Indenture, dated as of September 30, 1993, between Alcoa Inc. and The Bank of New York Trust Company, N.A., as successor to J. P. Morgan Trust Company, National Association (formerly Chase Manhattan Trust Company, National Association), as successor Trustee to PNC Bank, National Association, as Trustee (undated form of Indenture incorporated by reference to Exhibit 4(a) to Registration Statement No. 33-49997 on Form S-3)

4(c)(1)	First Supplemental Indenture, dated as of January 25, 2007, between Alcoa Inc. and The Bank of New York Trust Company, N.A., as successor to J.P. Morgan Trust Company, National Association (formerly Chase Manhattan Trust Company, National Association), as successor Trustee to PNC Bank, National Association, as Trustee, incorporated by reference to Exhibit 99.4 to the Company's Current Report on Form 8-K dated January 25, 2007.
4(c)(2)	Second Supplemental Indenture, dated as of July 15, 2008, between Alcoa Inc. and The Bank of New York Mellon Trust Company, N.A., as successor in interest to J. P. Morgan Trust Company, National Association (formerly Chase Manhattan Trust Company, National Association, as successor to PNC Bank, National Association), as Trustee, incorporated by reference to Exhibit 4(c) to the Company's Current Report on Form 8-K dated July 15, 2008.
4(c)(3)	Fourth Supplemental Indenture, dated as of December 31, 2017, between Arconic Inc., a Pennsylvania corporation, Arconic Inc., a Delaware corporation, and The Bank of New York Mellon Trust Company, N.A., as trustee, incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K dated January 4, 2018.
4(c)(4)	Fifth Supplemental Indenture, dated as of April 16, 2020, between Howmet Aerospace Inc., a Delaware corporation, and The Bank of New York Mellon Trust Company, N.A., as trustee, incorporated by reference to Exhibit 4(e) to the Company's Registration Statement on Form S-3 (Registration Statement No. 333-237705) dated April 16, 2020.
4(d)	Form of 6.75% Bonds Due 2028, incorporated by reference to Exhibit 4(d) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
4(e)	Form of 5.90% Notes Due 2027, incorporated by reference to Exhibit 4(e) to the Company's Annual Report on Form 10-K for the year ended December 31, 2008.
4(f)	Form of 5.95% Notes Due 2037, incorporated by reference to Exhibit 4(f) to the Company's Annual Report on Form 10-K for the year ended December 31, 2008.
4(g)	Form of 5.125% Notes Due 2024, incorporated by reference to Exhibit 4.5 to the Company's Current Report on Form 8-K dated September 22, 2014.
4(h)	Form of 6.875% Notes due 2025, incorporated by reference to Exhibit 4.6 to the Company's Current Report on Form 8-K dated April 24, 2020.
4(i)	Form of 3.000% Notes due 2029, incorporated by reference to Exhibit 4.6 to the Company's Current Report on Form 8-K dated September 1, 2021.
4(j)	Description of Arconic Inc.'s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934, incorporated by reference to Exhibit 4(p) to the Company's Annual Report on Form 10-K for the year ended December 31, 2019.
10(a)	Second Amended and Restated Five-Year Revolving Credit Agreement, dated as of July 27, 2023, among Howmet Aerospace Inc., the lenders and issuers named therein, Citibank, N.A., as administrative agent, and JPMorgan Chase Bank, N.A., as syndication agent, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated July 31, 2023.
10(b)	Term Loan Agreement, dated as of November 22, 2023, among Howmet Aerospace Inc, the lenders named therein, and Truist Bank, as administrative agent and syndication agent.
10(c)	Term Loan Agreement, dated as of November 22, 2023, among Howmet Aerospace Inc, the lenders named therein, and Sumitomo Mitsui Banking Corporation, as administrative agent.
10(d)	Settlement Agreement, dated as of May 22, 2017, by and among Elliott Associates, L.P., Elliott International, L.P., Elliott International Capital Advisors Inc. and Arconic Inc., incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated May 22, 2017 (reporting an event on May 21, 2017).
10(e)	Letter Agreement, by and among Arconic Inc. and Elliott Associates, L.P., Elliott International, L.P. and Elliott International Capital Advisors Inc., dated as of December 19, 2017, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated December 19, 2017.

10(f)	Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated, effective January 1, 2021, incorporated by reference to Exhibit 10(g) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
10(f)(1)	First Amendment to the Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated, incorporated by reference to Exhibit 10(g)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
10(f)(2)	Second Amendment to the Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023.
10(f)(3)	Third Amendment to the Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated.
10(f)(4)	Fourth Amendment to the Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated.
10(g)	Howmet Aerospace Salaried Retirement Savings Plan, as Amended and Restated, effective January 1, 2021, incorporated by reference to Exhibit 10(g)(2) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
10(g)(1)	First Amendment to the Howmet Aerospace Salaried Retirement Savings Plan, as Amended and Restated, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023.
10(g)(2)	Second Amendment to the Howmet Aerospace Salaried Retirement Savings Plan, as Amended and Restated.
10(h)	Howmet Aerospace Excess Benefits Plan C (formerly known as the Arconic Employees' Excess Benefits Plan C), as amended and restated effective August 1, 2016, incorporated by reference to Exhibit 10(j) to the Company's Annual Report on Form 10-K for the year ended December 31, 2016.
10(h)(1)	First Amendment to Howmet Aerospace Excess Benefits Plan C (formerly known as the Arconic Employees' Excess Benefits Plan C), effective January 1, 2018, incorporated by reference to Exhibit 10(l)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
10(h)(2)	Second Amendment to Howmet Aerospace Excess Benefits Plan C (formerly known as the Arconic Employees' Excess Benefits Plan C), effective January 1, 2018, incorporated by reference to Exhibit 10(l)(2) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
10(h)(3)	Third Amendment to Howmet Aerospace Excess Benefits Plan C (formerly known as the Arconic Employees' Excess Benefits Plan C), effective March 31, 2018. incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated January 8, 2018.
10(i)	Deferred Fee Plan for Directors, as amended effective July 9, 1999, incorporated by reference to Exhibit 10(g)(1) to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1999.
10(j)	Amended and Restated Deferred Fee Plan for Directors, effective April 1, 2020, incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020.
10(k)	Non-Employee Director Compensation Policy, effective January 1, 2023, incorporated by reference to Exhibit 10(k) to the Company's Annual Report on Form 10-K for the year ended December 31, 2022.
10(l)	Fee Continuation Plan for Non-Employee Directors, incorporated by reference to Exhibit 10(k) to the Company's Annual Report on Form 10-K for the year ended December 31, 1989.
10(l)(1)	Amendment to Fee Continuation Plan for Non-Employee Directors, effective November 10, 1995, incorporated by reference to Exhibit 10(i)(1) to the Company's Annual Report on Form 10-K for

10(m)	Howmet Aerospace Deferred Compensation Plan, as amended and restated February 1, 2020.
10(m)(1)	First Amendment, effective January 1, 2024, to the Howmet Aerospace Deferred Compensation Plan, as Amended and Restated.
10(n)	Summary of the Executive Split Dollar Life Insurance Plan, dated November 1990, incorporated by reference to Exhibit 10(m) to the Company's Annual Report on Form 10-K for the year ended December 31, 1990.
10(o)	Amended and Restated Dividend Equivalent Compensation Plan, effective January 1, 1997, incorporated by reference to Exhibit 10(h) to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004.
10(p)	Form of Indemnity Agreement between the Company and individual directors or officers, incorporated by reference to Exhibit 10(j) to the Company's Annual Report on Form 10-K for the year ended December 31, 1987.
10(q)	Form of Indemnification Agreement between the Company and individual directors or officers, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated January 25, 2018.
10(r)	Howmet Aerospace Supplemental Pension Plan for Senior Executives (formerly known as the Arconic Supplemental Pension Plan for Senior Executives), as amended and restated effective August 1, 2016, incorporated by reference to Exhibit 10(v) to the Company's Annual Report on Form 10-K for the year ended December 31, 2016.
10(r)(1)	First Amendment to Howmet Aerospace Supplemental Pension Plan for Senior Executives (formerly known as the Arconic Supplemental Pension Plan for Senior Executives), effective January 1, 2018, incorporated by reference to Exhibit 10(x)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
10(r)(2)	Second Amendment to Howmet Aerospace Supplemental Pension Plan for Senior Executives (formerly known as the Arconic Supplemental Pension Plan for Senior Executives), effective January 1, 2018, incorporated by reference to Exhibit 10(x)(2) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
10(s)	Deferred Fee Estate Enhancement Plan for Directors, effective July 10, 1998, incorporated by reference to Exhibit 10(r) to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
10(t)	Howmet Aerospace Inc. Change in Control Severance Plan, as Amended and Restated, effective September 17, 2021, incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on September 23, 2021.
10(u)	Howmet Aerospace Inc. Executive Severance Plan, as Amended and Restated, effective September 17, 2021, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 23, 2021.
10(v)	Letter Agreement, by and between Arconic Inc. and Michael N. Chanatry, dated as of March 20, 2018, incorporated by reference to Exhibit 10(w) to the Company's Annual Report on Form 10-K for the year ended December 31, 2021.
10(w)	Letter Agreement, from Arconic Inc. to Ken Giacobbe, dated as of February 14, 2019, incorporated by reference to Exhibit 10(hh) to the Company's Annual Report on Form 10-K for the year ended December 31, 2018.
10(x)	Letter Agreement, by and between Arconic Inc. and John C. Plant, dated as of February 13, 2019, incorporated by reference to Exhibit 10(a) to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.
10(y)	Letter Agreement, by and between Arconic Inc. and John C. Plant, dated as of August 1, 2019, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated August 2, 2019.

10(z)	Letter Agreement, by and between Arconic Inc. and John C. Plant, dated as of February 24, 2020, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated February 25, 2020.
10(aa)	Letter Agreement between Howmet Aerospace Inc. and John C. Plant, dated as of June 9, 2020, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 12, 2020.
10(bb)	Letter Agreement, by and between Howmet Aerospace Inc. and John C. Plant, dated as of October 14, 2021, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 14, 2021.
10(cc)	Letter Agreement, by and between Howmet Aerospace Inc. and John C. Plant, dated as of December 2, 2022, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 8, 2022.
10(dd)	Restricted Share Unit Award Agreement with John C. Plant as of February 15, 2024.
10(ee)	Letter Agreement, by and between Arconic Inc. and Neil E. Marchuk, dated as of February 13, 2019, incorporated by reference to Exhibit 10(c) to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.
10(ff)	Howmet Aerospace Inc. Legal Fee Reimbursement Plan (formerly known as the Arconic Inc. Legal Fee Reimbursement Plan), effective as of April 30, 2018, incorporated by reference to Exhibit 10(b) to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.
10(gg)	Howmet Aerospace Inc. 2020 Annual Cash Incentive Plan, as Amended and Restated.
10(hh)	2013 Howmet Aerospace Stock Incentive Plan, as Amended and Restated.
10(ii)	Terms and Conditions for Stock Option Awards, effective May 3, 2013, incorporated by reference to Exhibit 10(b) to the Company's Current Report on Form 8-K dated May 8, 2013.
10(ji)	Terms and Conditions for Stock Option Awards under the 2013 Howmet Aerospace Stock Incentive Plan, effective July 22, 2016, incorporated by reference to Exhibit 10(d) to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.
10(kk)	Global Stock Option Award Agreement, effective January 19, 2018, incorporated by reference to Exhibit 10(uu) to the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
10(ll)	Form of Stock Option Award Agreement, incorporated by reference to Exhibit 10(f) to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018.
10(mm)	Terms and Conditions for Restricted Share Units for Annual Director Awards under the 2013 Howmet Aerospace Stock Incentive Plan, as Amended and Restated, effective December 5, 2017, incorporated by reference to Exhibit 10(a) to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.
10(nn)	Terms and Conditions for Deferred Fee Restricted Share Units for Director Awards under the 2013 Howmet Aerospace Stock Incentive Plan, effective November 30, 2016, incorporated by reference to Exhibit 10(ww) to the Company's Annual Report on Form 10-K for the year ended December 31, 2016.
10(oo)	Global Restricted Share Unit Award Agreement, effective September 30, 2020, incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020.
10(pp)	Global Stock Option Award Agreement, effective September 30, 2020, incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020.
10(qq)	Global Special Retention Award Agreement, effective September 30, 2020, incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020.

10(rr)	Terms and Conditions for Restricted Share Units, effective September 30, 2020, incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020.
10(ss)	Global Restricted Share Unit Award Agreement, effective December 7, 2023.
10(tt)	Global Special Retention Award Agreement, effective December 7, 2023.
10(uu)	Form of Confidentiality, Non-Competition, and Non-Solicitation Agreement, incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021.
10(ww)	Letter Agreement, by and between Howmet Aerospace Inc. and Lola Lin, dated as of May 5, 2021, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021.
10(xx)	Restricted Share Unit Award Agreement - Annual Equity Award for Lola Lin, effective July 15, 2021 incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021.
21	Subsidiaries of the Registrant.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney.
31	Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97	Executive Officer Incentive Compensation Recovery Policy.
101. INS	Inline XBRL Instance Document.
101. SCH	Inline XBRL Taxonomy Extension Schema Document.
101. CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101. DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101. LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101. PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	The cover page of this Annual Report on Form 10-K for the year ended December 31, 2023 (formatted in Inline XBRL and contained in Exhibit 101).

* Exhibit Nos. 10(f) through 10(xx) are management contracts or compensatory plans required to be filed as Exhibits to this Form 10-K.

Amendments and modifications to other Exhibits previously filed have been omitted when in the opinion of the registrant such Exhibits as amended or modified are no longer material or, in certain instances, are no longer required to be filed as Exhibits.

Certain instruments defining the rights of holders of long-term debt securities of the Registrant and its subsidiaries are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. The Registrant hereby undertakes to furnish to the SEC, upon request, copies of any such instruments.

Item 16. Form 10-K Summary.

None.

SIGNATURES

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

HOWMET AEROSPACE INC.									
February 13, 2024					By	/s/ Barbara L. Shultz			
						Barbara L. Shultz			
						Vice President and Controller (Also signing as Principal Accounting Officer)			

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

<u>Signature</u>					<u>Title</u>			<u>Date</u>	
/s/ John C. Plant								February 13, 2024	
John C. Plant					Executive Chairman and Chief Executive Officer (Principal Executive Officer and Director)				
/s/ Ken Giacobbe								February 13, 2024	
Ken Giacobbe					Executive Vice President and Chief Financial Officer (Principal Financial Officer)				

James F. Albaugh, Amy E. Alving, Sharon R. Barner, Joseph S. Cantie, Robert F. Leduc, David J. Miller, Jody G. Miller, Ulrich R. Schmidt and Gunner S. Smith, each as a Director, on February 13, 2024, by Barbara L. Shultz, their Attorney-in-Fact.*

*By		/s/ Barbara L. Shultz							
		Barbara L. Shultz							
		Attorney-in-Fact							