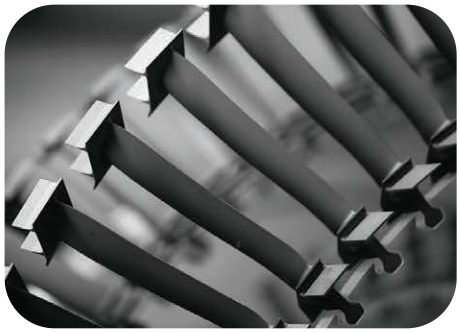

HOWMET AEROSPACE

2024 ANNUAL REPORT

HOWMET AEROSPACE

Who We Are

OUR VISION **We are a company of innovators and makers. We are transforming the future with high-performance engineered solutions that are paired with advanced manufacturing expertise.**

OUR MISSION Leverage our differentiated technologies to reduce the carbon footprint of our customers by delivering products that enable lighter, more fuel-efficient aircraft and commercial vehicles, and enable sustainable power generation.

WHAT WE DO Howmet Aerospace is a manufacturer of high-performance advanced engineered solutions for the aerospace, defense, and transportation markets.

Engine Products

Produce components enabling quieter, cleaner and more fuel-efficient aerospace engines and industrial gas turbines.

Fastening Systems

Make aerospace and industrial fasteners to hold together aircraft, jet engines, commercial trucks, wind turbines, solar panels, and more.

Engineered Structures

Manufacture advanced, multi-material parts that make aircraft and vehicles lighter and more fuel-efficient.

Forged Wheels

Forge strong aluminum wheels that allow commercial trucks to run lighter and more fuel-efficiently.

HOW WE OPERATE As **One Team**, with **One Direction**, using **One Plan**.

Value Our People

- Emphasize health and safety.
- Foster a "speak up" culture.
- Embrace a diverse and inclusive work environment.
- Support the communities where we operate.

Drive Operational Excellence

- Lead with integrity.
- Continuously improve operations.
- Focus on the few things that matter.
- Align to win together.
- Deliver value to shareholders.

Win With Our Customers

- Collaborate to solve customer challenges.
- Innovate for our customers' success.
- Deliver with quality.
- Act with our customers in mind.

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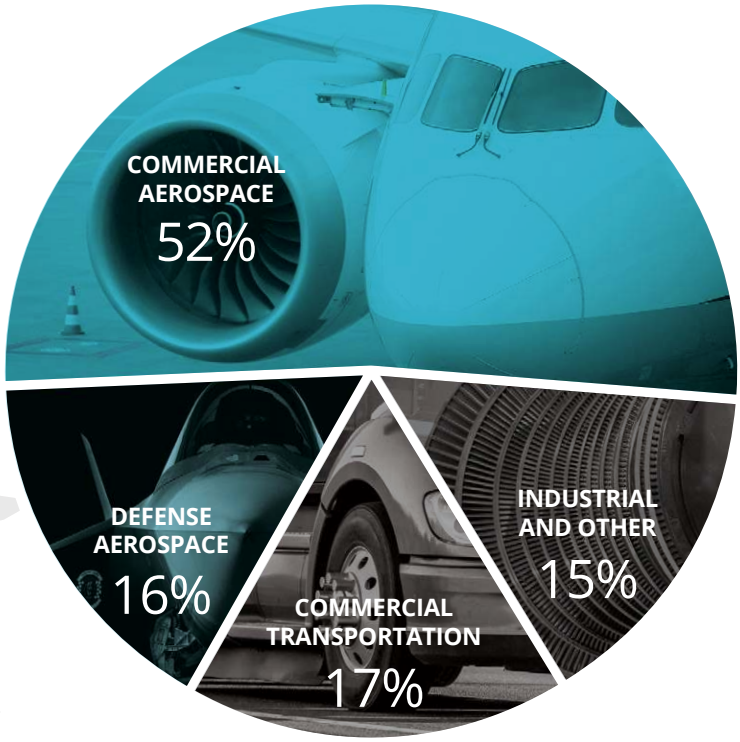
2024 OVERVIEW

2024 TOTAL REVENUE

$7.4 Billion

REVENUE BY MARKET SECTOR



GLOBAL PROFILE

23,930 EMPLOYEES

57 LOCATIONS*

22 COUNTRIES

* *Not including locations that serve as sales and administrative offices, distribution centers or warehouses.*

HOWMET AEROSPACE

Howmet Aerospace is a leading global provider of advanced engineered solutions for the aerospace and transportation industries.

Headquartered in Pittsburgh, Pennsylvania, 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.

With approximately 1,170 granted and pending patents, the Company's differentiated technologies enable lighter, more fuel-efficient aircraft and commercial trucks to operate with a lower carbon footprint.

For more information: www.howmet.com

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2025 Howmet Aerospace Shareholder Letter

April 9, 2025

Dear Shareholder,

Howmet Aerospace delivered excellent financial results in 2024. Additionally, the share price of our common stock increased 102 percent, which outpaced the 23 percent growth in the S&P 500 index.

Revenue for the full year of 2024 was approximately $7.4 billion, up 12 percent from 2023, driven by strong growth in all three of our aerospace segments, and we outgrew each of our respective markets. Adjusted EBITDA* of over $1.9 billion was up 27 percent year-over-year and was an all-time high. Adjusted Earnings per Share* was $2.69 per share, up 46 percent year-over-year.

The Company's balance sheet continues to strengthen. Free cash flow for the year was $977 million, with a healthy free cash flow conversion of net income excluding special items at 88 percent, which is in-line with our long-term target of 90 percent and reflected the significant capital investments we are making in the business.

We reduced debt by $365 million in the year, and combined with other debt refinancing activity, our actions during 2024 will reduce annualized interest expense by approximately $37 million. Our net debt-to-Adjusted-EBITDA* ratio was 1.4 times for the twelve months ended December 31, 2024. Capital expenditures in the year were $321 million, up approximately $100 million year-over-year, as we continued to invest for growth. We also repurchased $500 million of common stock during 2024 and recently announced a 25 percent increase in the quarterly dividend on our common stock to $0.10 per share.

We deliver these superior results as we operate as one team focused on providing customers with high-performance products. We do this while focusing on our employees' safety and development, being a good neighbor in the communities where we operate, being conscientious environmental stewards, and ensuring we are making good business investments. We seek to be reliable for our customers, suppliers, employees and our communities.

In the commercial aerospace market, the outlook remains healthy. Air passenger traffic continues to grow, led more recently by Europe and Asia Pacific. There has been some recent moderation in North American traffic growth, driven by tariff-related and economic uncertainty. Nevertheless, Howmet Aerospace's engine and airframe OEM customers continue to demonstrate growth, with record backlogs supported by under-build of aircraft in recent years and the desire for new, fuel-efficient aircraft with reduced carbon emissions.

Given the easing of some production constraints at the OEMs and in the supply chain, the commercial aerospace industry is positioned for increased aircraft production. We expect to see higher production volumes in 2025, and we are positioned to support our customers with the differentiated, mission-critical aerospace parts that we provide. Spares growth was significant in 2024, and we expect robust growth again in 2025, driven by significant needs from both legacy and current engine programs.

The defense aerospace market, for which our revenue increased 15 percent in 2024 compared to 2023, was also a source of strength, and we expect this continuing into 2025 for both the F-35 aircraft and legacy fighter programs. Defense aerospace spares revenue growth was healthy in 2024, and we expect this trend to continue in 2025 as the fleet of F-35 aircraft continues to expand worldwide.

We expect additional growth in our Industrial and Other end markets, led by Industrial Gas Turbines (IGT), as the outlook for electricity demand is increasing

from the significant increases in the building of data centers. Howmet Aerospace provides critical turbine airfoils for the IGT market, enabling better performance and fuel efficiency of these power generating units. Howmet Aerospace is the global market leader in turbine blades.

The commercial truck market entered a cyclical downturn in 2024, as expected. For 2025, we do not expect the market to recover before mid-year 2025. A potential increase in commercial truck builds is less certain in the second half of the year, given tariff-related and economic uncertainty in North America. However, our premium products and strong market position should allow Howmet Aerospace to continue to outperform the overall market.

While production challenges at OEMs impacted new aircraft build rates, engine spares continued to grow. Total spares revenue represented approximately 17% of total Howmet Aerospace revenue in 2024, significantly higher than the 11% of total revenue that spares represented in 2019. We envision spares to continue to be healthy again in 2025 and grow towards 20 percent of total Howmet Aerospace revenue in the coming years.

Engine Products delivered a record year. Revenue of $3.7 billion in 2024 reflected an increase of 14 percent year-over-year. Segment Adjusted EBITDA growth outpaced revenue growth and was up approximately 30 percent year-over-year. Segment Adjusted EBITDA Margin increased to 30.8 percent.

The Engine Products segment grew employee headcount by approximately 1,205 over the course of 2024 to support future growth. We also deployed significant capital in the business to increase production capacity for airfoils, with the investment supported by long-term customer agreements.

Fastening Systems revenue of $1.6 billion in 2024 reflected an increase of 17 percent year-over-year. Segment Adjusted EBITDA growth outpaced revenue growth and was up approximately 46 percent year-over-year. Segment Adjusted EBITDA Margin increased to 25.8 percent as the Fasteners team drove strong commercial and operational improvements in the segment.

Engineered Structures revenue of $1.1 billion in 2024 reflected an increase of 21 percent year-over-year. Segment Adjusted EBITDA growth outpaced revenue growth and was up approximately 47 percent. Segment Adjusted EBITDA Margin increased to 15.6 percent, driven by commercial improvements, optimization of its manufacturing footprint and product rationalization.

Forged Wheels revenue of $1.1 billion in 2024 was down eight percent year-over-year due to lower volumes in the commercial transportation market. Despite lower volumes, the Forged Wheels team delivered a Segment Adjusted EBITDA margin of 27.2 percent, up approximately 30 basis points year-over-year.

In closing, markets continue to be healthy, and our strategy remains unchanged.

- Focus on what we are good at to **drive growth above market rate**
- **Prioritize major differentiated products** for resource allocation
- Underpin strategy with **commercial and operational discipline**
- Execute a **disciplined capital allocation strategy**

While tariffs have increased uncertainty in the outlook, we still expect to see increasing demand in the commercial aerospace, defense aerospace, and data center-driven industrial/IGT markets in 2025, as we continue our focus on growth above the market rate. We remain focused on delivering our differentiated, mission-critical parts and serving as a reliable supplier to our customers. Howmet Aerospace remains well-positioned for a strong 2025 and beyond.

JOHN C. PLANT
Executive Chairman and Chief Executive Officer
Howmet Aerospace Inc.

* See "Calculation of Financial Measures" at the end of this report for reconciliations of non-GAAP financial measures to the most directly comparable GAAP financial measures. Note that each of the measures, Adjusted EBITDA, Adjusted EBITDA margin, and Adjusted Earnings per Share, excludes special items.

References to performance by Howmet Aerospace or its segments as "record" or "all-time high" mean its best result since April 1, 2020 when Howmet Aerospace Inc. (previously named for Arconic Inc.) separated from Arconic Corporation.

2024 Financial Highlights

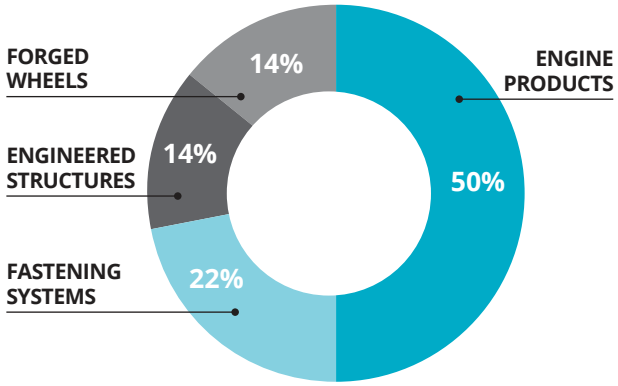
HOWMET AEROSPACE

FINANCIAL AND OPERATING HIGHLIGHTS

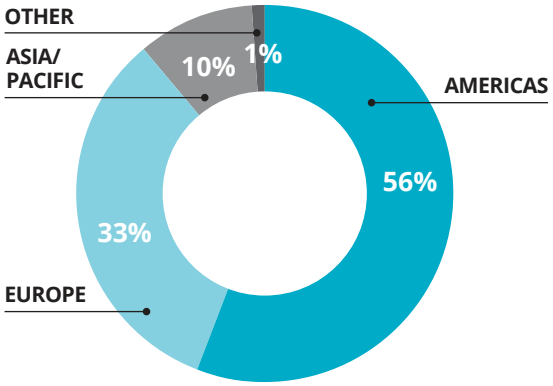
(in millions, except per share amounts)

	2024	2023
Sales	$ 7,430	$ 6,640
Net income	$ 1,155	$ 765
Net income excluding special items*	$ 1,107	$ 766
Adjusted EBITDA excluding special items*	$ 1,914	$ 1,508
Cash provided from operations	$ 1,298	$ 901
Cash used for financing activities	$ (1,026)	$ (868)
Cash used for investing activities	$ (316)	$ (215)
Free cash flow*	$ 977	$ 682
Total assets	$ 10,519	$ 10,428
Common stock outstanding (on December 31)	405	410
Per common share data		
Diluted earnings per share	$ 2.81	$ 1.83
Diluted earnings per share excluding special items*	$ 2.69	$ 1.84
Dividends paid per share	$ 0.26	$ 0.17

2024 REVENUE BY SEGMENT



2024 SALES BY REGIONAL DESTINATION



QUARTERLY FINANCIAL AND OPERATING HIGHLIGHTS (JANUARY 1, 2024 TO DECEMBER 31, 2024)

(dollars in millions)

	QUARTER ENDED			
	3/31/2024	6/30/2024	9/30/2024	12/31/2024
Sales	$ 1,824	$ 1,880	$ 1,835	$ 1,891
Income before income taxes	$ 303	$ 334	$ 354	$ 392
Net income	$ 243	$ 266	$ 332	$ 314
Adjusted EBITDA margin excluding special items*	24.0%	25.7%	26.5%	26.8%
Cash provided from operations	$ 177	$ 397	$ 244	$ 480
Cash used for financing activities	$ (178)	$ (123)	$ (441)	$ (284)
Cash used for investing activities	$ (75)	$ (54)	$ (80)	$ (107)
Free cash flow*	$ 95	$ 342	$ 162	$ 378

* See "Calculation of Financial Measures" at the end of this report for reconciliations of non-GAAP financial measures to the most directly comparable GAAP financial measures.

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, 2024
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)

Delaware	25-0317820
(State of incorporation)	(I.R.S. Employer Identification No.)

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:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $1.00 per share	**HWM**	**New York Stock Exchange**
$3.75 Cumulative Preferred Stock, par value $100.00 per share	**HWM PR**	**NYSE American**

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). ☐

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 $31 billion. As of February 10, 2025, there were 405,022,519 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 2025 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 2025 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, 2024. 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, debt issuances, debt reduction and repurchases of its common stock. 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. Credit ratings are not a recommendation to buy or hold any Howmet securities, and they may be revised or revoked at any time at the sole discretion of the credit rating organizations. The statements in this report are made as of the date of the filing of this report. 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.

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PART I

Item 1. Business.

General

Howmet Aerospace Inc. is a Delaware corporation with its principal office in Pittsburgh, Pennsylvania. In this report, unless the context otherwise requires, "Howmet", the "Company", "we", "us", and "our" refer to Howmet Aerospace Inc. and its consolidated subsidiaries.

The Company's Internet address is https://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 https://www.sec.gov.

Background

As described below, Howmet Aerospace Inc. was previously named Arconic Inc. and, prior to that, Alcoa Inc., a company formed in 1888.

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 businesses (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. 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 19 countries. Based upon the country where the point of shipment occurred, North America and Europe generated 71% and 23%, respectively, of Howmet's sales in 2024. In addition to the United States, Canada, and Mexico in North America and France, United Kingdom, Hungary, and Germany in Europe, Howmet has operating activities in numerous other countries and regions, including Japan and China.

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 or through distributors.

Aerospace (Commercial and Defense) Market. Howmet's largest market is aerospace, which represented approximately 68% of the Company's revenue in 2024. 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 17% of the Company's revenue in 2024. 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 2024.

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, titanium extrusions, 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 lightweight, high-strength forged aluminum wheels for trucks, buses, and trailers, serving the global transportation market. The Company's portfolio, sold under the Alcoa® Wheels brand, includes advanced wheel designs utilizing MagnaForce® alloy, offering superior durability and performance. Compared to standard steel wheel configurations, our aluminum wheels deliver up to 59% weight savings per tractor-trailer, enabling greater payload capacity. Our proprietary Dura-Bright® surface treatment resists corrosion and significantly reduces maintenance requirements, helping fleets maintain a professional appearance while lowering operational costs.

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, 2024, 2023, and 2022, were:

	For the Year Ended December 31,		
	2024	**2023**	**2022**
Aerospace - Commercial	52 %	49 %	46 %
Aerospace - Defense	16 %	15 %	16 %
Commercial Transportation	17 %	21 %	23 %
Industrial and Other[1]	15 %	15 %	15 %

[1] Industrial and Other comprise industrial gas turbine (approximately 45%), general industrial (approximately 30%), and oil and gas (approximately 25%).

On April 2, 2024, General Electric Company, one of our largest customers, completed the spin-off of its energy-focused business into GE Vernova, a new publicly traded company. Since then, General Electric Company operates as GE Aerospace. In 2024, RTX Corporation and GE Aerospace each represented approximately 10% 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[2]	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
	Worcester[2][3]	Engine Products	Aerospace and Industrial Gas Turbine Castings Tooling

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 and Tooling
	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 Tooling
	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 17 locations that serve as sales and administrative offices, distribution centers or warehouses.

(2) Leased property or partially leased property.

(3) In October 2024, Howmet acquired Camcraft LTD.

Sources and Availability of Raw Materials

Important raw materials purchased in 2024 for each of the Company's reportable segments are listed below.

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

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 2024, the Company's worldwide patent portfolio consisted of approximately 950 granted patents and 220 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. As of the end of 2024, the Company's worldwide trademark portfolio consisted of approximately 1,570 registered trademarks and 50 pending trademark applications. Following the Alcoa Inc. Separation Transaction, the Company retained the Alcoa Wheels® business and, pursuant to a Trademark License Agreement, is the exclusive licensee of the "Alcoa" name and logo for use with the wheels, hubs, and related products that we manufacture. 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 Forgital 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 2024, 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 2025. 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

Howmet strives to attract, recruit, engage, develop and retain world-class talent. 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 have 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 various partners and job boards, including our campus recruitment platform that enables us to proactively reach a broad talent network of students and schools across the United States. Additional technologies such as recruiting booster text capabilities facilitate communicating with candidates quickly and efficiently. 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 have been working to extend training access using technology to our hourly employees during 2024, piloting this technology at several locations. 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. 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, focusing on providing opportunities to all individuals. A valuable component of development is Howmet's mentoring program, which builds readiness for future leaders. Our talent review and succession planning process is an ongoing priority and is sponsored and led by our Chief Executive Officer with oversight by the Board of Directors.

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 toward our ultimate goal of zero incidents. We use various risk identification, assessment, and control processes to reduce the likelihood of safety and health incidents in the workplace, with prioritization of the prevention of fatality and serious injury.

Employees

Total worldwide employment at the end of 2024 was approximately 23,930 employees in 22 countries.

Approximately 3,500 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 Engine Products facility in Whitehall, Michigan. The current agreement, which covers approximately 1,450 employees, expires on April 1, 2028. The second largest workforce of approximately 700 employees within our Engineered Structures and Forged Wheels segments is covered under a five-year collective bargaining agreement reached in March 2024 between Howmet and the UAW at our Cleveland, Ohio location, which expires in February 2029. The Company's next significant plant collective bargaining agreement in the U.S. expires in 2027. 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, 2025 are listed below. The Company's executive officers are annually 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, 64, 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, 59, 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, 50, 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, 67, Executive Vice President, Chief Human Resources Officer. Mr. Marchuk was initially elected Executive Vice President and Chief Human Resources Officer of Howmet effective March 1, 2019. He served as Interim President, Engineered Structures, from October 2023 to April 2024; and Interim President, Fastening Systems, from November 2022 to May 2023. 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, 71, 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, 51, 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 and regulations.

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 domestic and global airline passenger traffic, 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 defense spending, which can be impacted by a government's shifting priorities and budget compromises. It is also impacted by the effects of terrorism, a changing global geopolitical environment, U.S. foreign policy, the impact of government shutdowns and federal debt ceiling on funding and appropriations, 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.

Geopolitical tensions, conflicts, and wars have impacted, and may in the future impact, global energy markets, leading to high volatility and increasing prices for crude oil, natural gas, and other energy supplies. Energy costs impact operating expenses at our manufacturing facilities, the expense of shipping raw materials to our facilities, and the expense of shipping products to our customers. The costs of certain raw materials (including, but not limited to, nickel, titanium, aluminum, cobalt, and superalloy materials) necessary for the manufacture of Howmet's products and other manufacturing and operating costs are influenced by market forces, including inflation, supply and demand, and shortages. 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. Governmental constraints, including export restrictions, sanctions, new or increased import duties or tariffs, and countervailing or anti-dumping duties, also impact the cost of raw materials and other manufacturing and operating costs. The global trade landscape is growing more volatile, including, as a result of the recent executive orders in the U.S. for the imposition of new tariffs, the likelihood of further tariffs and retaliatory counter measures by other countries. We continually monitor the global trade environment and any changes in tariffs, trade agreements, restrictions, or sanctions that may impact the Company or our suppliers or customers, and work to mitigate potential impacts. Inflation worldwide and in the United States has resulted in an increase in the costs of materials and labor. While we generally intend 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 pass through or 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, changes in the global trade landscape 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 at 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, at prices that are favorable to us or in a timely manner. 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, in the past, 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 were to 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. Additionally, the increase in aerospace demand requires the Company to successfully recruit, train, and retain new workers and talent. 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, adverse development or deterioration in the business or financial condition of a key customer, or the loss of a key customer, could adversely affect Howmet's financial results. For example, quality control issues and a recent labor union work stoppage at The Boeing Company ("Boeing") have negatively impacted, and are expected to negatively impact, narrow body and wide body production rates in the near term. Boeing production rates have had and are expected to have a material impact on the financial performance of Howmet. 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. The use of new and evolving technologies, such as artificial intelligence, or AI, presents risks and challenges that can impact our business. Unauthorized use or misuse of AI by the Company's employees, vendors or others may result in the disclosure of confidential company or customer data, reputational harm, privacy law violations, cybersecurity risks, and legal liability.

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 depend, 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 or 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. Credit ratings may be revised or revoked at any time at the sole discretion of the credit rating organizations. 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 (the "Board"), 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. The Company may modify, suspend, or cancel its share repurchase program or its dividend policy in any manner and at any time that it may deem necessary or appropriate.

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. Compliance with 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 and its worldwide operations, as well as its customers and suppliers, 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 increased indirect costs resulting from our suppliers incurring additional compliance costs that are passed on to us, and remediation obligations, may impact Howmet's results of operations or liquidity.

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 and its customers and suppliers utilize natural gas, electricity and other fuels to operate their 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 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 or those of its 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 or those of its suppliers or 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 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 alignment with cybersecurity standards published by the National Institute of Standards and Technology and achievement of the Department of Defense (DoD) Cybersecurity Maturity Model Certification, which will require companies like Howmet that do business with the DoD to obtain specific third-party certifications relating to specified cybersecurity standards to be eligible for new contract awards. 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"), representatives 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.

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.

The Cybersecurity Committee, which originated in 2015 as a dedicated cybersecurity subcommittee of the Audit Committee, was made a formal committee of the Board in 2022. The Cybersecurity 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 three 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.

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 8,656 as of February 10, 2025.

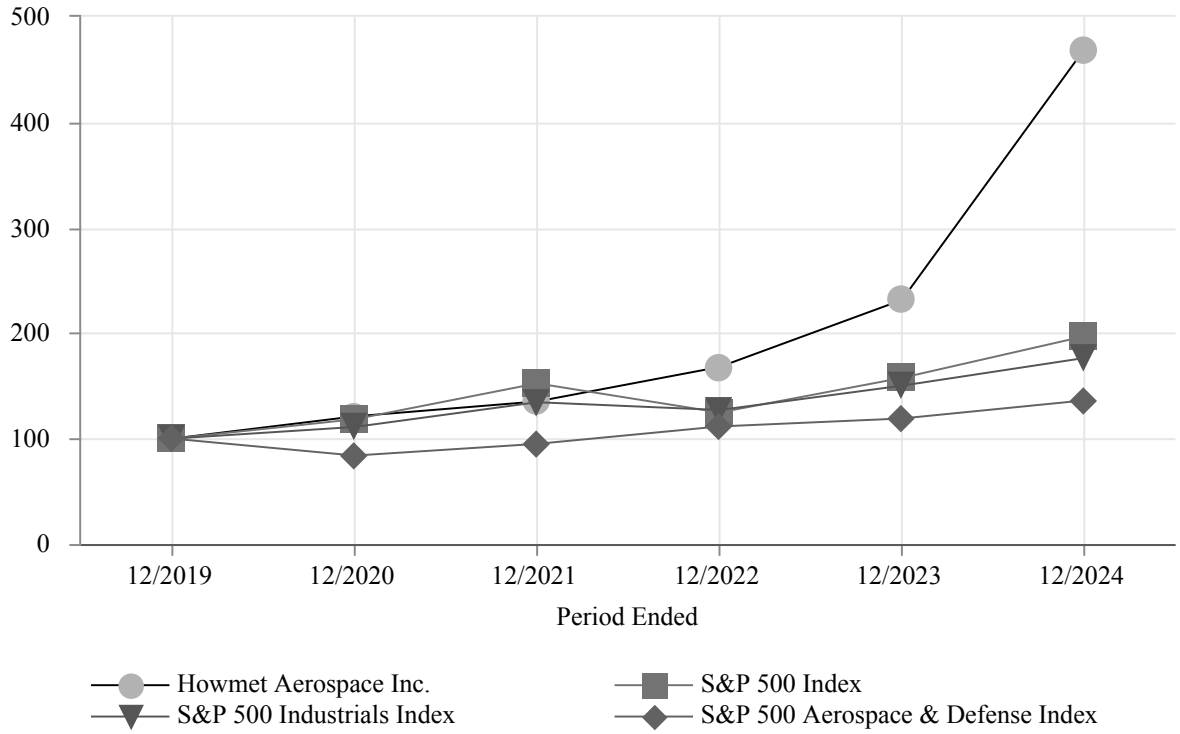
Stock Performance Graph

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 500® Aerospace & Defense Index, which comprises Axon Enterprise, Inc., General Dynamics Corporation, General Electric Company (operating as GE Aerospace), Howmet Aerospace Inc., Huntington Ingalls Industries, Inc., L3Harris Technologies, Inc., Lockheed Martin Corporation, Northrop Grumman Corporation, RTX Corporation, Textron Inc., The Boeing Company, and Transdigm Group Incorporated.

The graph assumes, in each case, an initial investment of $100 on December 31, 2019, 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 by removing the estimated value of Arconic Corporation rather than reflecting the value of Arconic Corporation as a dividend as of April 1, 2020. 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.

Cumulative Total Return

Based upon an initial investment of $100 at December 31, 2019 with dividends reinvested



As of December 31,	2019	2020	2021	2022	2023	2024
Howmet Aerospace Inc.	$ 100.00	$ 121.11	$ 135.24	$ 167.93	$ 231.48	$ 469.20
S&P 500® Index	100.00	118.40	152.39	124.79	157.59	197.02
S&P 500® Industrials Index	100.00	111.06	134.52	127.15	150.20	176.44
S&P 500® Aerospace & Defense Index	100.00	83.94	95.03	111.54	119.09	136.24

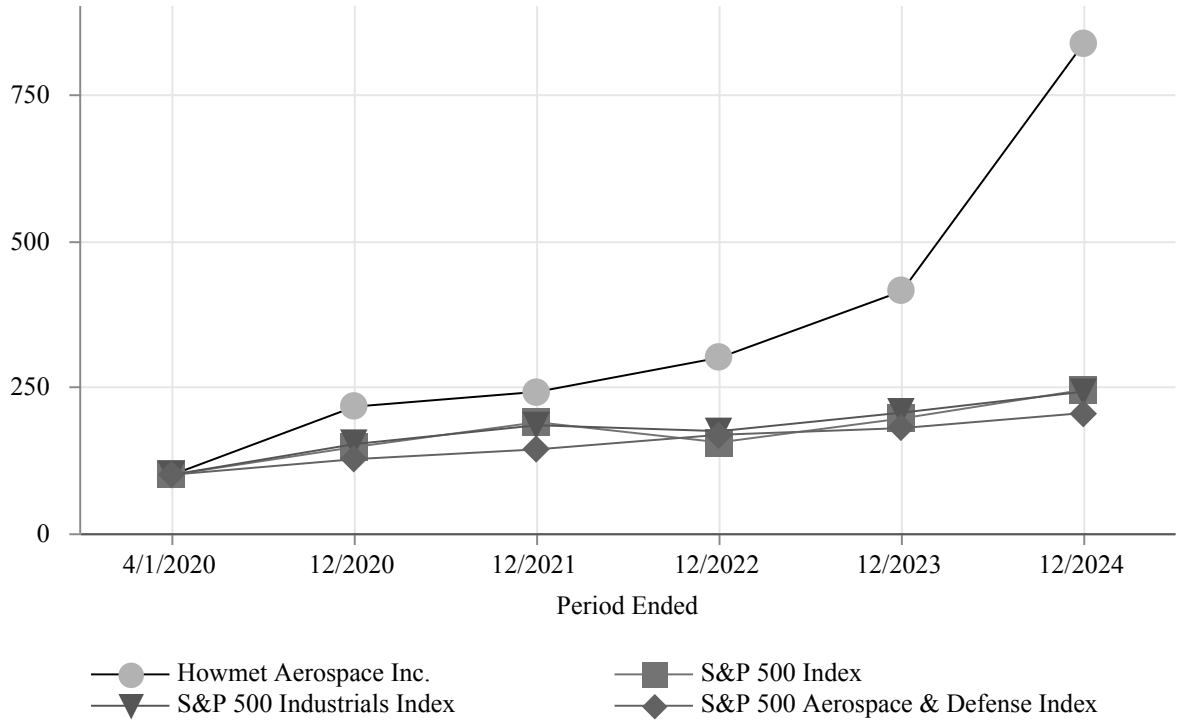
Supplemental Stock Performance Graph Beginning with Arconic Inc. Separation Transaction

In addition, the Company is providing the following supplemental graph which begins on April 1, 2020, the effective date of the Arconic Inc. Separation Transaction. The graph compares the Company's common stock performance from April 1, 2020 to December 31, 2024 with (1) the S&P 500® Index, (2) the S&P 500® Industrials Index and (3) the S&P 500® Aerospace & Defense Index.

The graph assumes, in each case, an initial investment of $100 on April 1, 2020, the date of the Arconic Inc. Separation Transaction 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 by removing the estimated value of Arconic Corporation rather than reflecting the value of Arconic Corporation as a dividend as of April 1, 2020.

Cumulative Total Return

Based upon an initial investment of $100 at April 1, 2020 with dividends reinvested



As of	4/1/2020	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Howmet Aerospace Inc.	$ 100.00	$ 216.21	$ 241.44	$ 299.80	$ 413.25	$ 837.65
S&P 500® Index	100.00	147.26	189.53	155.20	196.00	245.04
S&P 500® Industrials Index	100.00	152.24	184.39	174.29	205.89	241.86
S&P 500® Aerospace & Defense Index	100.00	126.52	143.25	168.13	179.51	205.36

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, 2024:

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, 2024	872,490	$ 103.15	872,490	$ 2,297
November 1 - November 30, 2024	386,401	$ 116.46	386,401	$ 2,252
December 1 - December 31, 2024	472,302	$ 116.45	472,302	$ 2,197
Total for quarter ended December 31, 2024	1,731,193	$ 109.75	1,731,193	

(1) Excludes commissions cost.

(2) The Company has a share repurchase program (the "Share Repurchase Program") that, after giving effect to the additional $50 million share repurchases made in January 2025 at an average price per share of $116.39, retiring approximately 0.4 million shares, has approximately $2,147 million in Board authorization remaining available as of January 31, 2025. The current Share Repurchase Program was authorized by the Company's Board of Directors on August 18, 2021 at $1,500 million, which was increased by the Board by $2,000 million on July 30, 2024. Under the Company's 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.

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 19 countries. Based upon the country where the point of shipment occurred, North America and Europe generated 71% and 23%, respectively, of Howmet's sales in 2024. In addition to the United States, Canada, and Mexico in North America and France, United Kingdom, Hungary, and Germany in Europe, Howmet has operating activities in numerous other countries and regions, including Japan and China. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, affect the results of operations in countries with such activities.

Management Review of 2024 and Outlook

The Company derived approximately 52% of its revenue from products sold to the commercial aerospace market for the year ended December 31, 2024. Aircraft production in the commercial aerospace industry continues to grow based on increases in demand for narrow body and wide body aircraft. We expect our commercial aerospace wide body and narrow body demand, including engine spares, also to continue to grow. Quality control issues at The Boeing Company ("Boeing") have had and are expected to continue to have a negative impact on narrow body and wide body production rates in the near term. For instance, the Federal Aviation Administration stated that it will not approve production rate increases above 38 aircraft per month or additional production lines for the Boeing 737 MAX until it is satisfied that Boeing is in full compliance with required quality control procedures. In addition, a labor union work stoppage and ensuing production restart at Boeing has negatively impacted results. Boeing production levels have had and are expected to have a material impact on the financial performance of Howmet. 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 2024, Sales increased 12% from 2023 primarily as a result of higher volumes in the commercial aerospace, defense aerospace, and industrial and other markets, and favorable product pricing, partially offset by lower volumes in the commercial transportation market. Product price increases are in excess of material and inflationary cost pass through to our customers.

Income before income taxes increased 42% from 2023. Total Segment Adjusted EBITDA[(1)] increased 27% from 2023 primarily due to favorable sales in the commercial aerospace, defense aerospace, 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 2024 with a solid financial position.

The following financial information reflects certain key highlights of Howmet's 2024 results:

- Sales of $7,430, an increase of 12% from 2023, driven by higher sales in the commercial aerospace, defense aerospace, and industrial and other markets, partially offset by lower sales in the commercial transportation market;
- Net income of $1,155, or $2.81 per diluted share;
- Income before income taxes of $1,383, an increase of $408, or 42%, from 2023;
- Total Segment Adjusted EBITDA[(1)] of $2,009, an increase of $422, or 27%, from 2023;
- Cash on hand and restricted cash at the end of the year of $565;
- Cash provided from operations of $1,298; cash used for financing activities of $1,026; and cash used for investing activities of $316;
- Repurchased the Company's common stock of approximately 6 million shares under the Share Repurchase Program for approximately $500;

- Total debt of $3,315, a net decrease of $391 from 2023, reflecting repurchases and redemption of $600 aggregate principal amount of the 6.875% Notes due May 2025 (the "2025 Notes"), redemption of $205 aggregate principal amount of the 5.125% Notes due October 2024 (the "2024 Notes"), early partial prepayment of $60 aggregate principal amount of its USD term loan, partially offset by the issuance of $500 aggregate principal amount of the 4.850% Notes due October 2031 (the "2031 Notes"), net of the cross-currency swap that synthetically converted the 2031 Notes into a lower fixed-interest-rate Euro liability; and
- The Company's common stock had a closing price of $109.37 per share as of December 31, 2024, an increase of $96.17 per share, or 729%, since the Arconic Inc. Separation Transaction on April 1, 2020, compared to an increase of 138% for the S&P 500® Index and 99% for the S&P 500® Aerospace & Defense 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 2025, 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, including engines spares. 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 2025 compared with 2024, resulting from a continued focus on operating performance and on capital efficiency. Capital expenditures are expected to increase with additional investments in capacity expansions. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, may affect future results of operations and cash flow.

Results of Operations

Earnings Summary

Sales. Sales for 2024 were $7,430 compared with $6,640 in 2023, an increase of $790, or 12%. The increase was primarily due to higher sales in the commercial aerospace, defense aerospace, and industrial and other markets, including engine spares, and favorable product pricing, partially offset by lower volumes in the commercial transportation market. Product price increases are in excess of inflationary cost pass through to our customers.

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, and an increase in material cost pass through. 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 68.9% in 2024 compared with 71.9% in 2023. The decrease was primarily due to higher volumes and favorable product pricing, partially offset by increased net headcount, primarily in the Engine Products segment, in support of expected revenue increases. The Company had total COGS net reimbursements of $18 in 2024 due to the final settlement of the insurance claim related to a mechanical failure that occurred in 2022 resulting in substantial heat and fire-related damage to equipment at the Forged Wheels' cast house in Barberton, Ohio (the "Barberton Cast House Incident") in the second quarter of 2024 and the final settlement of the insurance claim related to the fires that occurred in 2019 at a Fastening Systems plant in France (the "France Plant Fire") in the fourth quarter of 2024, compared to total COGS insurance claims reimbursements of $19 in 2023, partially offset by charges of $7 in 2023, related to the France Plant Fire and Barberton Cast House Incident. The insurance claims related to the Barberton Cast House Incident and the France Plant Fire have now been completed. All cash related to the insurance claims has been collected as of January 2025.

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 the France Plant Fire and 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.

Selling, general administrative, and other expenses ("SG&A"). SG&A expenses were $347, or 4.7% of Sales, in 2024 compared with $333, or 5.0% of Sales, in 2023. The increase in SG&A of $14, or 4%, was primarily due to higher employment costs.

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.

Research and development expenses ("R&D"). R&D expenses were $33 in 2024 compared with $36 in 2023. The decrease of $3, or 8%, was primarily due to the timing of spending on technology projects.

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 to support the aerospace business.

Provision for depreciation and amortization ("D&A"). The provision for D&A was $277 in 2024 compared with $272 in 2023. The increase of $5, or 2%, was primarily driven by the disposal of unused assets in the Engine Products segment.

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.

Restructuring and other charges. Restructuring and other charges were $21 in 2024 compared with $23 in 2023 and $56 in 2022.

Restructuring and other charges in 2024 consisted primarily of a $13 net loss on the sale of a small U.K. manufacturing facility in Engineered Structures and $10 charge for layoff costs.

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 or sold some small manufacturing facilities including three in the U.K. 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.

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 $182 in 2024 compared with $218 in 2023. The decrease of $36, or 17%, was primarily due to the early redemptions of the 6.875% Notes due May 2025 (the "2025 Notes") during various periods in 2024, the early redemptions of the 5.125% Notes due October 2024 (the "2024 Notes") during various periods during 2023 and 2024, and the early partial prepayment of its USD term loan, partially offset by the August 2024 issuance of $500 aggregate principal amount of the 2031 Notes, net of the cross-currency swap that synthetically converted the 2031 Notes into a lower fixed-interest-rate Euro liability. Long-term debt, including long-term debt due within one year, has been reduced by $847 from December 31, 2022 to December 31, 2024. On an annual basis, the debt reduction and refinancing activities in 2024 will decrease Interest expense, net by approximately $37.

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.

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 $6 in 2024 compared with $2 in 2023. The increase of $4, or 200%, was primarily due to the debt premiums paid on the early redemption of the 2025 Notes in the third quarter of 2024.

Loss on debt redemption was $2 in both 2023 and 2022 due to the debt premiums paid on the early redemption of the 2024 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 $62 in 2024 compared with $8 in 2023. The increase in expense of $54 was primarily due to the reversal in the second quarter ended June 30, 2023 of $25, net of legal fees of $1, of the $65 pre-tax charge taken in the third quarter of 2022 related to the Lehman Brothers International (Europe) ("LBIE") legal proceeding as a result of the final settlement of such proceeding in June 2023 (See Note U to the Consolidated Financial Statements in Part II, Item 8) (Financial Statements and Supplementary Data), increases in foreign currency losses, net of $15, and an increase in the impacts of deferred compensation arrangements of $5. Non-service related net periodic benefit costs related to defined benefit plans and other postretirement benefit plans is expected to remain relatively flat from 2024 to 2025.

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 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.

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

Income taxes. Howmet's effective tax rate was 16.5% (provision on pre-tax income) in 2024 compared with the U.S. federal statutory rate of 21%. The effective tax rate differs from the U.S. federal statutory rate primarily due to the completion of an R&D study which resulted in a $44 net benefit related to prior years of U.S. federal and state R&D credits and related impacts, a $15 net benefit related to current year U.S. federal and state R&D credits and related impacts, a $25 benefit related to a U.S. deduction on Foreign Derived Intangible Income, an $11 net benefit related to various other credits, a $10 excess benefit for stock compensation, a $6 benefit to release a valuation allowance related to U.S. state tax losses and credits, and a $4 benefit to release a valuation allowance related to U.S. foreign tax credits, partially offset by $12 of U.S. tax on Global Intangible Low-Taxed Income ("GILTI") and other foreign earnings, $15 of incremental state tax and foreign taxes on earnings also subject to U.S. federal income tax, $11 of charges related to nondeductible expenses, and $8 of net foreign tax cost related to foreign earnings subject to withholding tax and local tax in high tax rate jurisdictions. 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. The Pillar Two directive has been implemented, or is expected to be implemented, through domestic legislation in multiple countries where the Company operates. While the Company does not expect the adoption of the Pillar Two framework to have a material impact on its effective tax rate, we continue to monitor any additional guidance released by the OECD, along with the pending and adopted legislation in the countries where we operate.

Howmet anticipates that the effective tax rate in 2025 will be between 20.5% and 21.5%. However, changes in the current economic environment, tax legislation or rate changes, currency fluctuations, ability to realize deferred tax assets, movements in stock price impacting tax benefits or deficiencies on stock-based payment awards, and the results of operations in certain taxing jurisdictions may cause this estimated rate to fluctuate.

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.

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 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.

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

Net income. Net income was $1,155, or $2.81 per diluted share, for 2024 compared to $765, or $1.83 per diluted share, in 2023. The increase in results of $390, or 51%, was primarily due to higher volumes in the commercial aerospace, defense aerospace, and industrial and other markets, including engines spares, favorable product pricing, a reduction in interest expense due to lower long-term debt levels, and a lower tax rate due to the completion of an R&D study, partially offset by lower volumes in the commercial transportation market and net impacts of foreign currency.

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, 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.

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 Segment Adjusted EBITDA. The Company's Chief Executive Officer, who has been determined to be our Chief Operating Decision Maker ("CODM"), believes that Segment Adjusted EBITDA provides 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 ("R&D") expenses; and Provision for depreciation and amortization. Special items, including Restructuring and other charges, are excluded from net margin and Segment Adjusted EBITDA. The Company's CODM considers forecast-to-actual variances for Segment Adjusted EBITDA when allocating resources across the Company's reportable segments. 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 $1,383 in 2024, $975 in 2023, and $606 in 2022. Segment Adjusted EBITDA for all reportable segments totaled $2,009 in 2024, $1,587 in 2023, and $1,352 in 2022. 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, 2024.

Engine Products

	2024	2023	2022
Third-party sales	$ 3,735	$ 3,266	$ 2,698
Segment Adjusted EBITDA	1,150	887	729
Segment Adjusted EBITDA Margin	30.8 %	27.2 %	27.0 %

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 $469, or 14%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace, defense aerospace, oil and gas, and industrial gas turbine markets, including spares growth.

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.

Segment Adjusted EBITDA for the Engine Products segment increased $263, or 30%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace, defense aerospace, oil and gas, and industrial gas turbine markets. The segment absorbed approximately 1,205 net headcount since the end of 2023 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 $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 Margin for the Engine Products segment increased approximately 360 basis points in 2024 compared with 2023, primarily due to growth in the commercial aerospace, defense aerospace, oil and gas, and industrial gas turbine markets.

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.

In 2025, as compared to 2024, demand in the commercial aerospace, defense aerospace, industrial gas turbine, and oil and gas markets is expected to increase. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, may affect future results of operations and cash flow.

Fastening Systems

	2024	2023	2022
Third-party sales	$ 1,576	$ 1,349	$ 1,117
Segment Adjusted EBITDA	406	278	234
Segment Adjusted EBITDA Margin	25.8 %	20.6 %	20.9 %

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 $227, or 17%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace market, including wide body recovery.

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.

Segment Adjusted EBITDA for the Fastening Systems segment increased $128, or 46%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace market, productivity gains which included reduced net headcount of approximately 135, and impacts of foreign currency.

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 Margin for the Fastening Systems segment increased approximately 520 basis points in 2024 compared with 2023, primarily due to growth in the commercial aerospace market as well as productivity gains.

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.

In 2025, as compared to 2024, demand in the commercial aerospace market is expected to increase. Demand in the commercial transportation market is not expected to recover before mid year of 2025 with some growth starting in the second half of 2025. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, may affect future results of operations and cash flow.

Engineered Structures

	2024	2023	2022
Third-party sales	$ 1,065	$ 878	$ 790
Segment Adjusted EBITDA	166	113	111
Segment Adjusted EBITDA Margin	15.6 %	12.9 %	14.1 %

Engineered Structures produces titanium ingots and mill products for aerospace and defense applications and is vertically integrated to produce titanium forgings, titanium extrusions, 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 $187, or 21%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace and defense aerospace markets. The Engineered Structures segment is focusing on the optimization of its manufacturing footprint and rationalization of product mix in order to maximize profitability.

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.

Segment Adjusted EBITDA for the Engineered Structures segment increased $53, or 47%, in 2024 compared with 2023, primarily due to growth in the commercial aerospace and defense aerospace markets. The Engineered Structures segment is focusing on the optimization of its manufacturing footprint and rationalization of product mix in order to maximize profitability.

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 Margin for the Engineered Structures segment increased approximately 270 basis points in 2024 compared with 2023, primarily due to growth in the commercial aerospace and defense aerospace markets. The Engineered Structures segment is focusing on the optimization of its manufacturing footprint and rationalization of product mix in order to maximize profitability.

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.

In 2025, as compared to 2024, demand in the defense aerospace and commercial aerospace markets is expected to increase. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, may affect future results of operations and cash flow.

Forged Wheels

	2024	2023	2022
Third-party sales	$ 1,054	$ 1,147	$ 1,058
Segment Adjusted EBITDA	287	309	278
Segment Adjusted EBITDA Margin	27.2 %	26.9 %	26.3 %

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 decreased $93, or 8%, in 2024 compared with 2023, primarily due to lower volumes in the commercial transportation market as well as a decrease in aluminum and other inflationary cost pass through.

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.

Segment Adjusted EBITDA for the Forged Wheels segment decreased $22, or 7%, in 2024 compared with 2023, primarily due to lower volumes in the commercial transportation market. The segment reduced approximately 160 net headcount since the end of 2023 as a result of lower production.

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 Margin for the Forged Wheels segment increased approximately 30 basis points in 2024 compared with 2023, primarily due to lower aluminum and other inflationary cost pass through, partially offset by lower volumes in the commercial transportation market.

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.

In 2025, as compared to 2024, demand in the commercial transportation markets served by Forged Wheels is not expected to recover before mid year of 2025 with some growth starting in the second half of 2025. Governmental policies, laws and regulations, and other economic factors, including inflation, customer requirements, tariffs, and fluctuations in foreign currency exchange rates and interest rates, may affect future results of operations and cash flow.

Reconciliation of Total Segment Adjusted EBITDA to Income before income taxes

	2024	2023	2022
Income before income taxes	$ 1,383	$ 975	$ 606
Loss on debt redemption	6	2	2
Interest expense, net	182	218	229
Other expense, net[1]	62	8	82
Operating income	$ 1,633	$ 1,203	$ 919
Segment provision for depreciation and amortization	270	262	258
Unallocated amounts:			
Restructuring and other charges	21	23	56
Corporate expense	85	99	119
Total Segment Adjusted EBITDA	$ 2,009	$ 1,587	$ 1,352

(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 $14, or 14%, in 2024 compared with 2023, primarily due to lower costs associated with closures, supply chain disruptions, and other items of $13, lower costs related to the collective bargaining agreement negotiations of $8, and higher net reimbursements related to the France Plant Fire and the Barberton Cast House Incident of $6, partially offset by higher employment costs in 2024.

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.

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, 2024, cash and cash equivalents of Howmet were $564, of which $284 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 2024 was $1,298 compared with $901 in 2023 and $733 in 2022.

The increase in cash provided from operations of $397, or 44%, between 2024 and 2023 was due to higher operating results of $361 and lower working capital of $72, partially offset by higher pension contributions of $43. The components of the change in working capital included favorable changes in receivables of $107, inventories of $36, prepaid expenses and other current assets of $10, partially offset by accounts payable of $42, compensation related payments and other accrued expenses of $32, and taxes, including income taxes, of $7.

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.

Financing Activities

Cash used for financing activities was $1,026 in 2024 compared with $868 in 2023 and $526 in 2022.

The use of cash in 2024 was primarily related to the repayments on the aggregate outstanding principal amount of long-term debt of approximately $870, the repurchase of common stock of $500, dividends paid to shareholders of $109, taxes paid for net share settlement of equity awards of $49, and debt issuance costs for the 2031 Notes of $5, partially offset by proceeds from the 2031 Notes debt issuance of $500 and the exercise of employee stock options of $8. On an annual basis, the 2024 debt reduction and refinancing activities will decrease Interest expense, net by approximately $37.

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.

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.

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.

On July 30, 2024, the Board of Directors of Howmet Aerospace approved the establishment of a 2025 dividend policy to pay cash dividends on the Company's common stock in 2025 at a rate of 15% plus or minus 5% of net income excluding special items. The declaration of future common stock dividends is subject to the discretion and approval of the Board of Directors of Howmet after the Board's consideration of all factors it deems relevant and subject to applicable law. The Company may modify, suspend, or cancel the dividend policy in any manner and at any time that it may deem necessary or appropriate.

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, 2024 or December 31, 2023, and no amounts were borrowed during 2024 or 2023 under the Credit Agreement.

On April 4, 2024, the Company established a commercial paper program under which the Company may issue unsecured commercial paper from time to time up to a maximum aggregate face amount of $1,000. The Company's commercial paper will be sold on customary terms in the U.S. commercial paper market on a private placement basis. The proceeds of the commercial

paper will be used for general corporate purposes. In conjunction with the commercial paper program, the Company was assigned short-term credit ratings by Moody's Investors Service, Inc., S&P Global Ratings, and Fitch Ratings, Inc.

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.

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 its Credit Facility, its commercial paper program, and its accounts receivables securitization program will continue to be sufficient to fund our operating and capital allocation activities.

The three major credit rating agencies have rated Howmet's debt with investment grade ratings. The Company's most recent short-term and long-term credit ratings, as well as the current outlook from the three major credit rating agencies are as follows:

	Short-Term	Long-Term	Outlook
S&P Global Ratings ("S&P")	A-2	BBB	Stable
Moody's Investors Service ("Moody's")	P-2	Baa1	Stable
Fitch Investors Service ("Fitch")	F2	BBB	Positive

On November 26, 2024, S&P upgraded Howmet's short-term debt rating from A-3 to A-2 and long-term debt rating from BBB- to BBB, and affirmed the current outlook at stable, citing strong demand for commercial aerospace components and debt reduction.

On August 6, 2024, Moody's upgraded Howmet's short-term debt rating from P-3 to P-2 and further upgraded Howmet's long-term debt rating two notches from Baa3 to Baa1, which was previously upgraded to Baa3 from Ba1 on February 29, 2024 citing demand in the markets served by Howmet along with the Company's improved financial leverage and updated the current outlook from positive to stable.

On August 6, 2024, Fitch affirmed Howmet's short-term debt rating at F2 and long-term debt rating at BBB and updated the current outlook from stable to positive.

Investing Activities

Cash used for investing activities was $316, $215, and $135 in 2024, 2023, and 2022, respectively.

The use of cash in 2024 was capital expenditures of $321 primarily related to Engine Products capacity expansion, various automation projects, and sustaining and return seeking capital projects across all segments and an acquisition in Engine Products, net of cash acquired of $5, partially offset by proceeds from the sale of assets in Engine Products and a business in Engineered Structures of $9.

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.

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, 2024 (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	2025	2026-2027	2028-2029	Thereafter
Operating activities:					
Raw material purchase obligations	$ 379	$ 218	$ 82	$ 79	$ —
Purchase and other payment obligations	30	19	11	—	—
Operating leases	189	46	68	36	39
Interest related to total debt	1,133	165	298	189	481
Estimated minimum required pension funding	352	45	154	153	—
Other postretirement benefit payments	56	6	12	12	26
Layoff and other restructuring payments	4	4	—	—	—
Uncertain tax positions	6	—	—	—	6
Financing activities:					
Total debt	3,328	5	948	1,000	1,375
Dividends to shareholders	42	42	—	—	—
Investing activities:					
Capital projects	417	270	147	—	—
Totals	$ 5,936	$ 820	$ 1,720	$ 1,469	$ 1,927

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 material costs in customer contracts with limited exceptions. 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 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 $60 as of December 31, 2024. 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 with maturities that extend to 2042, including cross-currency and interest rate swaps, is based on fixed rates as of December 31, 2024.

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 2030 and 2034, 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, 2024. 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 $109 in common stock and preferred stock dividends to shareholders during 2024. 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, 2024, there were 405,431,361 shares of outstanding common stock and 546,024 shares of outstanding Class A preferred stock. In 2024, the preferred stock dividend was $3.75 per share. A dividend of $0.26 per share on the Company's common stock was paid in 2024 ($0.05 per share in each of the first and second quarters of 2024 and $0.08 in the third and fourth quarters of 2024). Fully diluted shares outstanding as of December 31, 2024 were 408 million.

The Company has a share repurchase program (the "Share Repurchase Program") that, after giving effect to the additional $50 share repurchases made in January 2025 at an average price per share of $116.39, retiring approximately 0.4 million shares, has approximately $2,147 in Board authorization remaining available as of January 31, 2025. The current Share Repurchase Program was authorized by the Company's Board of Directors on August 18, 2021 at $1,500, which was increased by the Board by $2,000 on July 30, 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, 2024. 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 2025 and include additional capital expenditures related to the Engine Products capacity expansions.

Off-Balance Sheet Arrangements

As of December 31, 2024, Howmet had outstanding bank guarantees related to tax matters, customs duties, rental, plant expansion, and environmental obligations. The total amount committed under these guarantees, which expire at various dates between 2025 and 2027, was $6 as of December 31, 2024.

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 were included in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet. The remaining guarantee, which had a fair value of $6 as of both December 31, 2024 and 2023, relates to a long-term energy supply agreement that expires in 2047 at an Alcoa Corporation facility, for which the Company is secondarily liable in the event of a payment default by Alcoa Corporation. If the Company incurs any liability under this guarantee, Arconic Corporation is obligated to indemnify the Company for 50% of such liability. The Company currently views the risk of an Alcoa Corporation payment default on its obligations under the contract to be remote. The Company is required to provide a guarantee up to an estimated present value amount of approximately $1,121 and $1,131 as of December 31, 2024 and 2023, respectively, in the event of an Alcoa Corporation default. In December 2022, December 2023, and December 2024, 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.

The Company has outstanding letters of credit, primarily related to workers' compensation, environmental obligations, insurance obligations, and tax matters. The total amount committed under these letters of credit, which automatically renew or expire at various dates, primarily in 2025, was $90 as of December 31, 2024.

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 $48 (which are included in the $90 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 and Alcoa 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 $90 in the above paragraph). 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.

The Company has outstanding surety bonds primarily related to customs duties, workers' compensation, environmental-related matters, and contract performance. The total amount committed under these annual surety bonds, which automatically renew or expire at various dates, primarily in 2025 and 2026, was $44 as of December 31, 2024.

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 $44 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, respectively.

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; pension plans and other postretirement benefits obligations; 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.

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 $1,556 and $1,695, with a funded status of $(670) and $(770) as of December 31, 2024 and 2023, respectively. The total benefit obligation reduction of $133 was primarily driven by benefit payments. The improvement in the funded status of $100 was primarily driven by contributions and changes in discount rates. Excluding settlements and curtailments, net periodic benefit cost of pension and other postretirement benefits is expected to be approximately $35 in 2025 compared to $33 in 2024 and 2023.

Employer contributions for pension benefits were $79 and $36 for the years ended December 31, 2024 and 2023, respectively. Benefits paid for other postretirement benefits were $11 and $14 for the years ended December 31, 2024 and 2023, respectively. Total pension contributions and other postretirement benefits paid increased by $40, or 80%, in 2024 compared to 2023 primarily driven by additional discretionary contributions in addition to actual asset returns falling short of the plans' estimated return on assets assumption. Cash pension contributions in 2025 are expected to be approximately $60. Howmet's estimated funded status under the Employee Retirement Income Security Act was approximately 68% as of January 1, 2024.

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 9 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 2024, 2023, and 2022, the discount rate used to determine benefit obligations for pension and other postretirement benefit plans was 5.60%, 5.10%, and 5.40%, respectively. The impact on the liabilities of a change in the discount rate of 1/4 of 1% would be approximately $32 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 2024, 2023, and 2022 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 2025, 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 2025.

In 2024, net income of $17 (after-tax) was recorded in other comprehensive loss, primarily due to the increase in the discount rate, partially offset by plan asset returns that were less than expected. 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.

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, 2024, 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, 2024 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, 2024 and 2023, and the related consolidated statements of operations, of comprehensive income, of changes in equity, and of cash flows for each of the three years in the period ended December 31, 2024, 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, 2024, 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, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024 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, 2024, 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 $4,010 million as of December 31, 2024, and the amount of the goodwill associated with the Engineered Structures reporting unit was $303 million. Goodwill 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. 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. 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 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; and (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to sales growth and production costs.

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 and production costs. 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.

/s/ PricewaterhouseCoopers LLP
Pittsburgh, Pennsylvania
February 13, 2025

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)

For the year ended December 31,	2024	2023	2022
Sales (C)	$ 7,430	$ 6,640	$ 5,663
Cost of goods sold (exclusive of expenses below)	5,119	4,773	4,103
Selling, general administrative, and other expenses	347	333	288
Research and development expenses	33	36	32
Provision for depreciation and amortization	277	272	265
Restructuring and other charges (D)	21	23	56
Operating income	1,633	1,203	919
Loss on debt redemption (Q)	6	2	2
Interest expense, net (E)	182	218	229
Other expense, net (F)	62	8	82
Income before income taxes	1,383	975	606
Provision for income taxes (H)	228	210	137
Net income	$ 1,155	$ 765	$ 469
Amounts Attributable to Howmet Aerospace Inc. Common Shareholders (J):			
Net income	$ 1,153	$ 763	$ 467
Earnings per share:			
Basic	$ 2.83	$ 1.85	$ 1.12
Diluted	$ 2.81	$ 1.83	$ 1.11
Average Shares Outstanding (I):			
Basic	408	412	416
Diluted	410	416	421

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,	2024	2023	2022
Net income	$ 1,155	$ 765	$ 469
Other comprehensive (loss) income, net of tax (K):			
Change in unrecognized net actuarial loss and prior service cost (benefit) related to pension and other postretirement benefits	17	(36)	146
Foreign currency translation adjustments	(71)	57	(131)
Net change in unrecognized gains (losses) on cash flow hedges	6	(10)	7
Total Other comprehensive (loss) income, net of tax	(48)	11	22
Comprehensive income	$ 1,107	$ 776	$ 491

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

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

December 31,	2024	2023
Assets		
Current assets:		
Cash and cash equivalents	$ 564	$ 610
Receivables from customers, less allowances of $— in both 2024 and 2023 (L)	689	675
Other receivables (L)	20	17
Inventories (M)	1,840	1,765
Prepaid expenses and other current assets	249	249
Total current assets	3,362	3,316
Properties, plants, and equipment, net (N)	2,386	2,328
Goodwill (A and O)	4,010	4,035
Deferred income taxes (H)	35	46
Intangibles, net (O)	475	505
Other noncurrent assets (A and P)	251	198
Total assets	$ 10,519	$ 10,428
Liabilities		
Current liabilities:		
Accounts payable, trade	$ 948	$ 982
Accrued compensation and retirement costs	305	263
Taxes, including income taxes	60	68
Accrued interest payable	59	65
Other current liabilities (A and P)	171	200
Long-term debt due within one year (Q and R)	6	206
Total current liabilities	1,549	1,784
Long-term debt, less amount due within one year (Q and R)	3,309	3,500
Accrued pension benefits (G)	625	664
Accrued other postretirement benefits (G)	54	92
Other noncurrent liabilities and deferred credits (A and P)	428	351
Total liabilities	5,965	6,391
Contingencies and commitments (U)		
Equity		
Howmet Aerospace Inc. shareholders' equity:		
Preferred stock (I)	55	55
Common stock (I)	405	410
Additional capital (I)	3,206	3,682
Retained earnings (A)	2,766	1,720
Accumulated other comprehensive loss (A and K)	(1,878)	(1,830)
Total equity	4,554	4,037
Total liabilities and equity	$ 10,519	$ 10,428

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,	2024	2023	2022
Operating activities			
Net income	$ 1,155	$ 765	$ 469
Adjustments to reconcile net income to cash provided from operations:			
Depreciation and amortization	277	272	265
Deferred income taxes	55	108	79
Restructuring and other charges	21	23	56
Net realized and unrealized losses	25	22	18
Net periodic pension cost (G)	40	37	24
Stock-based compensation	63	50	54
Loss on debt redemption (Q)	6	2	2
Other	1	3	12
Changes in assets and liabilities, excluding effects of acquisitions, divestitures, and foreign currency translation adjustments:			
Increase in receivables (L)	(57)	(164)	(161)
Increase in inventories	(106)	(142)	(234)
Increase in prepaid expenses and other current assets	(14)	(24)	(6)
(Decrease) increase in accounts payable, trade	(49)	(7)	246
Increase in accrued expenses	5	37	23
Decrease in taxes, including income taxes	(14)	(7)	(12)
Pension contributions	(79)	(36)	(43)
(Increase) decrease in noncurrent assets	(3)	(4)	1
Decrease in noncurrent liabilities	(28)	(34)	(60)
Cash provided from operations	1,298	901	733
Financing Activities			
Net change in short-term borrowings	—	—	(5)
Additions to debt (Q)	500	400	—
Repurchases and payments on debt (Q)	(865)	(876)	(69)
Debt issuance costs (Q)	(5)	(2)	—
Premiums paid on early redemption of debt (Q)	(5)	(1)	(2)
Repurchases of common stock (I)	(500)	(250)	(400)
Proceeds from exercise of employee stock options	8	11	16
Dividends paid to shareholders (I)	(109)	(73)	(44)
Taxes paid for net share settlement of equity awards	(49)	(77)	(22)
Other	(1)	—	—
Cash used for financing activities	(1,026)	(868)	(526)
Investing Activities			
Capital expenditures (C and S)	(321)	(219)	(193)
Acquisitions, net of cash acquired	(5)	—	—
Proceeds from the sale of assets and businesses (D and T)	9	2	58
Other	1	2	—
Cash used for investing activities	(316)	(215)	(135)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1)	—	(2)
Net change in cash, cash equivalents and restricted cash	(45)	(182)	70
Cash, cash equivalents and restricted cash at beginning of year	610	792	722
Cash, cash equivalents and restricted cash at end of year	$ 565	$ 610	$ 792

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

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

	Preferred stock	Common stock	Additional capital	Retained earnings	Accumulated other comprehensive loss	Total equity
Balance at December 31, 2021	$ 55	$ 422	$ 4,291	$ 603	$ (1,863)	$ 3,508
Net income	—	—	—	469	—	469
Other comprehensive income (K)	—	—	—	—	22	22
Cash dividends declared:						
Preferred–Class A @ $3.75 per share	—	—	—	(2)	—	(2)
Common @ $0.10 per share	—	—	—	(42)	—	(42)
Repurchase and retirement of common stock (I)	—	(12)	(388)	—	—	(400)
Stock-based compensation (I)	—	—	54	—	—	54
Common stock issued: compensation plans (I)	—	2	(10)	—	—	(8)
Balance at December 31, 2022	$ 55	$ 412	$ 3,947	$ 1,028	$ (1,841)	$ 3,601
Net income	—	—	—	765	—	765
Other comprehensive income (K)	—	—	—	—	11	11
Cash dividends declared:						
Preferred–Class A @ $3.75 per share	—	—	—	(2)	—	(2)
Common @ $0.17 per share	—	—	—	(71)	—	(71)
Repurchase and retirement of common stock (I)	—	(5)	(246)	—	—	(251)
Stock-based compensation (I)	—	—	50	—	—	50
Common stock issued: compensation plans (I)	—	3	(69)	—	—	(66)
Balance at December 31, 2023	$ 55	$ 410	$ 3,682	$ 1,720	$ (1,830)	$ 4,037
Net income	—	—	—	1,155	—	1,155
Other comprehensive loss (K)	—	—	—	—	(48)	(48)
Cash dividends declared:						
Preferred–Class A @ $3.75 per share	—	—	—	(2)	—	(2)
Common @ $0.26 per share	—	—	—	(107)	—	(107)
Repurchase and retirement of common stock (I)	—	(6)	(498)	—	—	(504)
Stock-based compensation (I)	—	—	63	—	—	63
Common stock issued: compensation plans (I)	—	1	(41)	—	—	(40)
Balance at December 31, 2024	$ 55	$ 405	$ 3,206	$ 2,766	$ (1,878)	$ 4,554

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

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 expectations, including considerations relating to changes in the aerospace industry. The impact of these changes, including the macroeconomic considerations, remains highly uncertain. Management has made its 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 52%, 49%, and 46% of its revenue from products sold to the commercial aerospace market for the years ended December 31, 2024, 2023, and 2022, respectively. Aircraft production in the commercial aerospace industry continues to grow based on increases in demand for narrow body and wide body aircraft. We expect our commercial aerospace wide body and narrow body demand, including engine spares, also to continue to grow. Quality control issues at The Boeing Company ("Boeing") have had and are expected to continue to have a negative impact on narrow body and wide body production rates in the near term. For instance, the Federal Aviation Administration stated that it will not approve production rate increases above 38 aircraft per month or additional production lines for the Boeing 737 MAX until it is satisfied that Boeing is in full compliance with required quality control procedures. In addition, a labor union work stoppage and ensuing production restart at Boeing has negatively impacted results. Boeing production levels have had and are expected to have a material impact on the financial performance of Howmet. 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. LIFO is used for inventory valuation for certain of the U.S. locations in the Engine Products, Engineered Structures, and Forged Wheels segments, 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	28	16
Fastening Systems	27	17
Engineered Structures	29	20
Forged Wheels	27	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 $60 and $64 as of December 31, 2024 and 2023, 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") 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. 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.

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 may use interest rate swaps and cross-currency 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.

B. Recently Adopted and Recently Issued Accounting Guidance

Recently Adopted Accounting Guidance.

In November 2023, the Financial Accounting Standards Board ("FASB") issued guidance to enhance disclosures related to significant segment expenses and other matters 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. The adoption of this new disclosure is reflected in Note C of the Consolidated Financial Statements.

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. The adoption of this new disclosure is reflected in Note S of the Consolidated Financial Statements.

Recently Issued Accounting Guidance.

In November 2024, the FASB issued guidance to improve disclosures about an entity's expenses including more detailed information about the components of expenses in commonly presented expense captions. These changes become effective for fiscal years beginning after December 15, 2026, and interim periods within fiscal years beginning after December 15, 2027. Management is currently evaluating the impact of these changes on the Consolidated Financial Statements.

In December 2023, the FASB issued guidance to enhance the transparency of income tax disclosures including additional details on the rate reconciliation and taxes paid by jurisdiction. 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.

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 Segment Adjusted EBITDA. The Company's Chief Executive Officer, who has been determined to be our Chief Operating Decision Maker ("CODM"), believes that Segment Adjusted EBITDA provides 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 ("R&D") expenses; and Provision for depreciation and amortization. Special items, including Restructuring and other charges, are excluded from net margin and Segment Adjusted EBITDA. The Company's CODM considers forecast-to-actual variances for Segment Adjusted EBITDA when allocating resources across the Company's reportable segments. 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, and construction, industrial, and renewable energy equipment.

Engineered Structures

Engineered Structures produces titanium ingots and mill products for aerospace and defense applications and is vertically integrated to produce titanium forgings, titanium extrusions, 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
2024					
Sales:					
Third-party sales	$ 3,735	$ 1,576	$ 1,065	$ 1,054	$ 7,430
Inter-segment sales	7	1	10	—	18
Total sales	$ 3,742	$ 1,577	$ 1,075	$ 1,054	$ 7,448
Expenses:					
Segment Adjusted cost of goods sold[1]	$ 2,495	$ 1,061	$ 873	$ 724	$ 5,153
Other segment items[2]	97	110	36	43	286
Profit and loss:					
Segment Adjusted EBITDA	$ 1,150	$ 406	$ 166	$ 287	$ 2,009
Restructuring and other charges	1	5	12	1	19
Provision for depreciation and amortization	139	47	42	42	270
Other:					
Capital expenditures	$ 219	$ 26	$ 20	$ 45	$ 310
Total assets	5,145	2,711	1,355	701	9,912
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
Expenses:					
Segment Adjusted cost of goods sold[1]	$ 2,295	$ 959	$ 720	$ 796	$ 4,770
Other segment items[2]	97	112	48	42	299
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
Expenses:					
Segment Adjusted cost of goods sold[1]	$ 1,881	$ 782	$ 644	$ 745	$ 4,052
Other segment items[2]	92	101	41	35	269
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

(1) Segment Adjusted cost of goods sold is exclusive of Provision for depreciation and amortization, Restructuring and other charges, and Corporate expenses.

(2) Other segment items includes Selling, general administrative, and other expenses, and Research and development expenses; exclusive of Provision for depreciation and amortization, and Restructuring and other charges.

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,	**2024**	**2023**	**2022**
Total segment capital expenditures	$ 310	$ 205	$ 178
Corporate	11	14	15
Capital expenditures	$ 321	$ 219	$ 193

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,	**2024**	**2023**	**2022**
Total Segment Adjusted EBITDA	$ 2,009	$ 1,587	$ 1,352
Segment provision for depreciation and amortization	(270)	(262)	(258)
Unallocated amounts:			
Restructuring and other charges (D)	(21)	(23)	(56)
Corporate expense	(85)	(99)	(119)
Operating income	$ 1,633	$ 1,203	$ 919
Loss on debt redemption	(6)	(2)	(2)
Interest expense, net	(182)	(218)	(229)
Other expense, net (F)	(62)	(8)	(82)
Income before income taxes	$ 1,383	$ 975	$ 606

December 31,	**2024**	**2023**
Assets:		
Total segment assets	$ 9,912	$ 9,814
Unallocated amounts:		
Cash and cash equivalents	564	610
Deferred income taxes	36	46
Corporate fixed assets, net	83	83
Fair value of derivative contracts	4	—
Accounts receivable securitization	(250)	(250)
Other	170	125
Consolidated assets	$ 10,519	$ 10,428

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,	2024	2023	2022
Sales:			
United States	$ 3,713	$ 3,273	$ 2,928
France	678	578	394
Germany	458	363	292
Japan	355	378	319
United Kingdom	350	283	228
Italy	287	220	180
Mexico	220	263	235
Canada	174	145	138
Poland	152	130	96
China	103	98	111
Other	940	909	742
	$ 7,430	$ 6,640	$ 5,663

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

December 31,	2024	2023
Long-lived assets:		
United States	$ 1,864	$ 1,760
Hungary	199	200
United Kingdom	121	120
France	112	121
Mexico	68	71
Germany	54	58
China	41	46
Other	82	80
	$ 2,541	$ 2,456

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, 2024					
Aerospace - Commercial	$ 2,091	$ 1,006	$ 774	$ —	$ 3,871
Aerospace - Defense	766	162	236	—	1,164
Commercial Transportation	—	254	—	1,054	1,308
Industrial and Other	878	154	55	—	1,087
Total end-market revenue	$ 3,735	$ 1,576	$ 1,065	$ 1,054	$ 7,430
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

The Company derived 68%, 64%, and 62% of its revenue from the aerospace (commercial and defense) markets for the years ended December 31, 2024, 2023, and 2022, respectively.

On April 2, 2024, General Electric Company, one of our largest customers, completed the spin-off of its energy-focused business into GE Vernova, a new publicly traded company. Since then, General Electric Company operates as GE Aerospace. RTX Corporation and GE Aerospace each represented approximately 10% of the Company's third-party sales for the year ended December 31, 2024. These sales were 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,	2024	2023	2022
Layoff costs	$ 10	$ 3	$ —
Net reversals of previously recorded layoff reserves	(3)	(1)	(1)
Pension and other post-retirement benefits - net settlements (G)	—	5	58
Non-cash asset impairments and accelerated depreciation	2	14	1
Net losses (gains) related to divestitures of assets and businesses (T)	12	(1)	(8)
Other	—	3	6
Total restructuring and other charges	$ 21	$ 23	$ 56

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.

2024 Actions. In 2024, Howmet recorded Restructuring and other charges of $21, which were primarily due to a net loss on the sale of a small U.K. manufacturing facility in Engineered Structures of $13, a $10 charge for layoff costs, including the separation of 431 employees (283 in Fastening Systems, 111 in Engineered Structures and 37 in Forged Wheels), and accelerated depreciation, of $2, partially offset by the reversal of $3 for layoff reserves in Engineered Structures related to prior periods and a gain on the sale of assets at a small U.K. manufacturing facility in Engine Products of $1.

As of December 31, 2024, 355 employees of the 431 employees were separated. The remaining separations for the 2024 restructuring programs are expected to be completed in 2025.

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, 2024, actions related to the 2023 restructuring programs were complete.

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.

As of December 31, 2024, actions related to the 2022 restructuring programs were complete.

Activity and reserve balances for restructuring charges were as follows:

	Layoff costs	Other exit costs	Total
Reserve balances at December 31, 2021	$ 17	$ 2	$ 19
2022 Activity			
Cash payments	(9)	(7)	(16)
Restructuring and other charges	56	—	56
Other[1]	(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[2]	(5)	(13)	(18)
Reserve balances at December 31, 2023	$ 5	$ 2	$ 7
2024 Activity			
Cash payments	$ (8)	$ (2)	$ (10)
Restructuring and other charges	7	14	21
Other[3]	—	(14)	(14)
Reserve balances at December 31, 2024	$ 4	$ —	$ 4

(1) 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.

(2) 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.

(3) In 2024, other for other exit costs included a net loss of $13 on the sale of a small U.K. manufacturing facility and a charge of $2 for accelerated depreciation, partially offset by a gain on the sale of assets at a small U.K. manufacturing facility in Engine Products of $1.

The remaining reserves as of December 31, 2024 are expected to be paid in cash during 2025.

E. Interest Cost Components

For the year ended December 31,	2024	2023	2022
Amount charged to interest expense, net	$ 182	$ 218	$ 229
Loss on debt redemption (Q)	6	2	2
Amount capitalized	7	6	6
Total interest cost	$ 195	$ 226	$ 237

F. Other Expense, Net

For the year ended December 31,	2024	2023	2022
Non-service costs - pension and other postretirement benefits (G)	$ 29	$ 29	$ 16
Interest income	(20)	(23)	(6)
Foreign currency losses (gains), net	13	(2)	(1)
Net realized and unrealized losses[1]	25	22	18
Deferred compensation	15	10	(8)
Legal proceeding[2]	—	(25)	65
Other, net	—	(3)	(2)
Total other expense, net	$ 62	$ 8	$ 82

(1) In all periods presented, Net realized and unrealized losses primarily includes costs associated with sales under the Company's accounts receivables securitization arrangement and sales of other customer receivables (See Note L).

(2) In 2023, due to the final settlement of the Lehman Brothers International (Europe) legal proceeding (See Note U), Legal proceeding included the reversal of $25, net of legal fees of $1, 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. Effective July 1, 2024, salaried and non-bargaining hourly U.S. employees are not eligible for any postretirement medical benefits.

In 2023 and 2022, 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 and $17, 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 2025.

Obligations and Funded Status

December 31,	Pension benefits 2024	Pension benefits 2023	Other postretirement benefits 2024	Other postretirement benefits 2023
Change in benefit obligation				
Benefit obligation at beginning of year	$ 1,592	$ 1,599	$ 103	$ 120
Service cost	3	3	1	1
Interest cost	75	80	5	7
Amendments	—	—	(2)	(10)
Actuarial (gains) losses[1]	(58)	50	(36)	(1)
Settlements	—	(31)	—	—
Benefits paid	(112)	(118)	(11)	(14)
Foreign currency translation impact	(4)	9	—	—
Benefit obligation at end of year[2]	$ 1,496	$ 1,592	$ 60	$ 103
Change in plan assets[2]				
Fair value of plan assets at beginning of year	$ 925	$ 970	$ —	$ —
Actual (loss) return on plan assets	(8)	57	—	—
Employer contributions	79	36	—	—
Benefits paid	(95)	(101)	—	—
Administrative expenses	(12)	(13)	—	—
Settlement payments	—	(32)	—	—
Foreign currency translation impact	(3)	8	—	—
Fair value of plan assets at end of year[2]	$ 886	$ 925	$ —	$ —
Funded status	$ (610)	$ (667)	$ (60)	$ (103)
Amounts recognized in the Consolidated Balance Sheet consist of:				
Noncurrent assets	$ 31	$ 13	$ —	$ —
Current liabilities	(16)	(16)	(6)	(11)
Noncurrent liabilities	(625)	(664)	(54)	(92)
Net amount recognized	$ (610)	$ (667)	$ (60)	$ (103)
Amounts recognized in Accumulated Other Comprehensive Loss consist of:				
Net actuarial loss (gain)	$ 956	$ 960	$ (59)	$ (26)
Prior service cost (benefit)	2	2	(33)	(41)
Net amount recognized, before tax effect	$ 958	$ 962	$ (92)	$ (67)
Other changes in plan assets and benefit obligations recognized in Other Comprehensive Loss consist of:				
Net actuarial cost (benefit)	$ 28	$ 86	$ (36)	$ (1)
Amortization of accumulated net actuarial (loss) benefit	(32)	(33)	3	3
Prior service benefit	—	—	(2)	(10)
Amortization of prior service benefit	—	—	10	9
Net amount recognized, before tax effect	$ (4)	$ 53	$ (25)	$ 1

(1) As of December 31, 2024, the actuarial gains impacting the benefit obligation were primarily due to changes in the discount rate, partially offset by asset returns being lower than expected. At 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.

(2) As of December 31, 2024, the benefit obligation, fair value of plan assets, and funded status for U.S. pension plans were $1,356, $739, and $(617), respectively. 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.

Pension Plan Benefit Obligations

	Pension benefits	
	2024	2023
The projected benefit obligation and accumulated benefit obligation for all defined benefit pension plans were as follows:		
Projected benefit obligation	$ 1,496	$ 1,592
Accumulated benefit obligation	1,495	1,591
The aggregate projected benefit obligation and fair value of plan assets for pension plans with projected benefit obligations in excess of plan assets were as follows:		
Projected benefit obligation	1,380	1,459
Fair value of plan assets	739	780
The aggregate accumulated benefit obligation and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets were as follows:		
Accumulated benefit obligation	1,379	1,459
Fair value of plan assets	739	780

Components of Net Periodic Benefit Cost

	Pension benefits[1]			Other postretirement benefits		
For the year ended December 31,	2024	2023	2022	2024	2023	2022
Service cost	$ 3	$ 3	$ 4	$ 1	$ 1	$ 2
Interest cost	75	80	51	5	7	4
Expected return on plan assets	(70)	(74)	(80)	—	—	—
Recognized net actuarial loss (gain)	32	28	49	(3)	(3)	1
Amortization of prior service benefit	—	—	—	(10)	(9)	(9)
Settlements[2]	—	5	58	—	—	—
Net periodic benefit cost[3]	$ 40	$ 42	$ 82	$ (7)	$ (4)	$ (2)

(1) In 2024, 2023, and 2022, net periodic benefit cost for U.S. pension plans was $40, $40, and $79, respectively.

(2) 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.

(3) Service cost was included within Cost of goods sold and Selling, general administrative, and other expenses; settlements were included in Restructuring and other charges; 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,	2024	2023
Discount rate	5.60 %	5.10 %
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 9 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:

	2024	2023	2022
Discount rate to calculate service cost[1]	5.10 %	5.50 %	2.80 %
Discount rate to calculate interest cost[1]	4.90 %	5.30 %	2.50 %
Expected long-term rate of return on plan assets	6.70 %	6.70 %	6.70 %
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 2024, 2023, and 2022 to reflect the remeasurement of these plans due to amendments, 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 2025, 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 2024, 2023, and 2022, 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 returns developed by asset class.

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

	2024	2023	2022
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	2027	2026	2025

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 2025, 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 1.50%. 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, 2024 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) that 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, 2024	Level 1	Level 2	Net Asset Value	Total
Equities:				
Equity securities	$ 1	$ 130	$ 300	$ 431
Long/short equity hedge funds	—	—	20	20
Private equity	—	—	112	112
	$ 1	$ 130	$ 432	$ 563
Fixed income:				
Intermediate and long duration government/credit	$ 71	$ 57	$ —	$ 128
Other	18	66	—	84
	$ 89	$ 123	$ —	$ 212
Other investments:				
Real estate	$ —	$ 1	$ 54	$ 55
Discretionary and systematic macro hedge funds	—	—	40	40
Other	—	—	5	5
	$ —	$ 1	$ 99	$ 100
Net plan assets[1]	$ 90	$ 254	$ 531	$ 875

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[2]	$ 205	$ 304	$ 451	$ 960

(1) As of December 31, 2024, the total fair value of pension plans' assets excludes a net receivable of $11, which represents securities purchased and sold but not yet settled plus interest and dividends earned on various investments.

(2) 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 offset by 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 2024 and 2023, cash contributions to Howmet's pension plans were $79 and $36, respectively.

The contributions to the Company's pension plans in 2025 are estimated to be $60 (of which $44 is for U.S. plans).

Benefit payments expected to be paid to pension and other postretirement benefit plans' participants utilizing the current assumptions outlined above are as follows:

For the year ended December 31,	Pension benefits	Other post-retirement benefits
2025	$ 138	$ 6
2026	133	6
2027	131	6
2028	131	6
2029	126	6
2030 - 2034	576	26
Total	$ 1,235	$ 56

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 $92, $82, and $76 in 2024, 2023, and 2022, 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:

For the year ended December 31,	2024	2023	2022
United States	$ 901	$ 538	$ 287
Foreign	482	437	319
Total	$ 1,383	$ 975	$ 606

The provision for income taxes consisted of the following:

For the year ended December 31,	2024	2023	2022
Current:			
Federal[1]	$ 70	$ 5	$ 3
Foreign	98	94	53
State and local	4	2	—
	172	101	56
Deferred:			
Federal	43	92	71
Foreign	17	16	5
State and local	(4)	1	5
	56	109	81
Total	$ 228	$ 210	$ 137

(1) Federal 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 2024, 2023, and 2022 was a provision on income):

For the year ended December 31,	2024	2023	2022
U.S. federal statutory rate	21.0 %	21.0 %	21.0 %
Foreign tax rate differential	0.7	(0.1)	0.1
U.S. and residual tax on foreign earnings[1]	(0.6)	0.6	1.2
U.S. state and local taxes, net of federal income tax effect	1.0	0.7	0.5
Non-deductible officer compensation	0.7	0.7	1.2
Tax holidays	(0.4)	(0.4)	(0.5)
Tax credits[2]	(5.1)	(0.7)	(0.9)
Changes in valuation allowances	(0.6)	(1.1)	1.4
Changes in uncertain tax positions[3]	—	2.1	—
Excess benefit for stock compensation	(0.7)	(0.8)	(0.8)
Other	0.5	(0.5)	(0.6)
Effective tax rate	16.5 %	21.5 %	22.6 %

(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 2024, the Company completed an R&D study, and as a result recorded a discrete tax benefit for $42 of prior year federal R&D credits approved under audit by the U.S. Internal Revenue Service and $8 of prior year state R&D credits. The Company also recorded a tax benefit for federal and state R&D credits earned during the current year of $13 and $3, respectively.

(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:

December 31,	2024 Deferred tax assets	2024 Deferred tax liabilities	2023 Deferred tax assets	2023 Deferred tax liabilities
Depreciation	$ 8	$ 529	$ 8	$ 510
R&D capitalization	73	—	24	—
Employee benefits	232	9	240	4
Loss provisions	11	2	28	1
Deferred income/expense	46	293	32	1,210
Interest	6	—	32	—
Tax loss carryforwards	1,941	—	2,905	—
Tax credit carryforwards	110	—	216	—
Other	5	8	10	4
	$ 2,432	$ 841	$ 3,495	$ 1,729
Valuation allowance	(1,705)	—	(1,821)	—
Total	$ 727	$ 841	$ 1,674	$ 1,729

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

December 31, 2024	Expires within 10 years	Expires within 11-20 years	No Expiration[1]	Other[2]	Total
Tax loss carryforwards	$ 427	$ 393	$ 1,121	$ —	$ 1,941
Tax credit carryforwards	94	7	9	—	110
Other[3]	—	—	345	36	381
Valuation allowance	(481)	(324)	(897)	(3)	(1,705)
Total	$ 40	$ 76	$ 578	$ 33	$ 727

(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 (5%), and taxable temporary differences that reverse within the carryforward period (95%).

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 2025 to 2027 (as of December 31, 2024). 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 $46 and $20 expired at the end of 2024 and 2023, respectively, resulting in a corresponding decrease to the valuation allowance. Due to an increase in foreign source income, the Company decreased the valuation allowance accordingly by an additional $4 and $14 in 2024 and 2023, respectively. As of December 31, 2024, the cumulative amount of the valuation allowance was $41. 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 $7 decrease, $2 decrease, and $1 decrease to U.S. state valuation allowances in 2024, 2023, and 2022, 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 $30 decrease, $49 decrease, and $142 decrease in the valuation allowance in 2024, 2023, and 2022, respectively. Valuation allowances of $401 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. 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,	**2024**	**2023**	**2022**
Balance at beginning of year	$ 1,821	$ 1,965	$ 2,279
Increase to allowance	20	21	40
Release of allowance	(127)	(198)	(154)
Acquisitions, divestitures and liquidations	75	(16)	—
Tax apportionment, tax rate and tax law changes	(2)	(11)	(110)
Foreign currency translation	(82)	60	(90)
Balance at end of year	$ 1,705	$ 1,821	$ 1,965

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 2024 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 2023. The Company had net cash income tax payments of $177, $104, and $50 in 2024, 2023, and 2022, respectively.

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

December 31,	2024	2023	2022
Balance at beginning of year	$ 16	$ 2	$ 2
Additions for tax positions of the current year	—	1	—
Additions for tax positions of prior years	—	13	—
Settlements with tax authorities	(14)	—	—
Foreign currency translation	(1)	—	—
Balance at end of year	$ 1	$ 16	$ 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 2024, 2023, and 2022 would be less than 1%, 2%, and less than 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 2025.

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 and penalties of $1, $7, and less than $1 in 2024, 2023, and 2022, 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 $0, $2, and less than $1 in 2024, 2023, and 2022, respectively. As of December 31, 2024, 2023, and 2022, the amount accrued for the payment of interest and penalties was $9, $11, 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, 2024 and 2023. 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, 2024 and 2023.

Common Stock. As of December 31, 2024, there were 600,000,000 shares authorized at a par value of $1 per share, and 405,431,361 shares issued and outstanding. Dividends paid were $0.26 per share in 2024 ($0.05 per share in each of the first and second quarters of 2024 and $0.08 per share in each of the third and fourth quarter of 2024), $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), and $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).

As of December 31, 2024, 47 million shares of common stock were reserved for issuance under Howmet's stock-based compensation plans. As of December 31, 2024, 24 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 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
Issued for stock-based compensation plans	1,287,412
Repurchase and retirement of common stock	(5,770,512)
Balance at December 31, 2024	405,431,361

The following table provides details for share repurchases during 2024, 2023, and 2022:

	Number of shares	Average price per share[1]	Total
Q1 2024 open market repurchase	2,243,259	$66.87	$150
Q2 2024 open market repurchase	734,737	$81.66	$60
Q3 2024 open market repurchase	1,061,323	$94.22	$100
Q4 2024 open market repurchase	1,731,193	$109.75	$190
2024 Share repurchase total	5,770,512	$86.65	$500
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

(1) Excludes commissions cost.

The total value of shares repurchased during 2024, 2023, and 2022 were $500, $250, and $400, respectively. All of the shares repurchased during 2024, 2023, and 2022 were immediately retired. The Company has a share repurchase program (the "Share Repurchase Program") that, after giving effect to the additional $50 share repurchases made in January 2025 at an average price per share of $116.39, retiring approximately 0.4 million shares, has approximately $2,147 in Board authorization remaining available as of January 31, 2025. The current Share Repurchase Program was authorized by the Company's Board of Directors on August 18, 2021 at $1,500, which was increased by the Board by $2,000 on July 30, 2024. Under the Company's 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 $4 and $1 to additional capital for excise tax on net repurchases in 2024 and 2023, respectively.

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 2024, 2023, and 2022, Howmet recognized stock-based compensation expense of $63 ($57 after-tax), $50 ($44 after-tax), and $54 ($49 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 2024, 2023, and 2022 relates to restricted stock unit awards. No stock-based compensation expense was capitalized in any of those years. As of December 31, 2024, there was $28 (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 1.6 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 2024, 2023, and 2022 performance stock awards with a market condition including a TSR component is $72.65, $47.59, and $44.44, respectively. The 2024, 2023, and 2022 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 2024, 4.4% in 2023, and 2.0% in 2022) was based on a yield curve of interest rates at the time of the grant based on the remaining performance period. In 2024, 2023, and 2022, volatility of 27.7%, 39.0%, and 39.4%, respectively, was estimated using Howmet's historical volatility. Stock options were last granted in 2018.

The activity for stock options and stock awards during 2024 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, 2023	0.5	$ 22.67	3.0	$ 34.23
Granted	—	—	0.7	71.65
Exercised	(0.4)	23.41	—	—
Converted	—	—	(1.6)	32.11
Expired or forfeited	—	—	(0.1)	43.89
Performance share adjustment	—	—	0.1	35.97
Outstanding, December 31, 2024	0.1	$ 20.98	2.1	$ 48.28

As of December 31, 2024, the stock options outstanding had a weighted average remaining contractual life of 2.1 and a total intrinsic value of $13. All of the stock options outstanding were fully vested and exercisable. In 2024, 2023, and 2022, the cash received from stock option exercises was $8, $11, and $16, respectively, and the total tax benefit realized from these exercises was $3, $2, and $2, respectively. The total intrinsic value of stock options exercised during 2024, 2023, and 2022 was $16, $9, and $10, respectively. The total intrinsic value of stock awards converted during 2024, 2023, and 2022 was $117, $187, and $61, 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):

For the year ended December 31,	2024	2023	2022
Net income attributable to common shareholders	$ 1,155	$ 765	$ 469
Less: preferred stock dividends declared	2	2	2
Net income available to Howmet Aerospace common shareholders - basic and diluted	$ 1,153	$ 763	$ 467
Average shares outstanding - basic	408	412	416
Effect of dilutive securities:			
Stock and performance awards	2	4	5
Average shares outstanding - diluted	410	416	421

Common stock outstanding as of December 31, 2024, 2023, and 2022 was approximately 405 million, 410 million, and 412 million, respectively.

As average shares outstanding are used in the calculation for both basic and diluted EPS, the full impact of share repurchases and issuances was not fully realized in EPS in the period of repurchase or issuance since share activity 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 2024, 2023, and 2022.

K. Accumulated Other Comprehensive Loss

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

	2024	2023	2022
Pension and other postretirement benefits (G)			
Balance at beginning of period	$ (689)	$ (653)	$ (799)
Other comprehensive (loss) income:			
Unrecognized net actuarial gain (loss) and prior service cost/benefit	3	(68)	87
Tax (expense) benefit	(1)	15	(18)
Total Other comprehensive income (loss) before reclassifications, net of tax	2	(53)	69
Amortization of net actuarial loss and prior service cost[1]	19	21	99
Tax expense[2]	(4)	(4)	(22)
Total amount reclassified from Accumulated other comprehensive loss, net of tax[3]	15	17	77
Total Other comprehensive income (loss)	17	(36)	146
Balance at end of period	$ (672)	$ (689)	$ (653)
Foreign currency translation			
Balance at beginning of period	$ (1,136)	$ (1,193)	$ (1,062)
Other comprehensive (loss) income[4]	(71)	57	(131)
Balance at end of period	$ (1,207)	$ (1,136)	$ (1,193)
Cash flow hedges			
Balance at beginning of period	$ (5)	$ 5	$ (2)
Other comprehensive (loss) income:			
Net change from periodic revaluations	—	(19)	(8)
Tax benefit (expense)	—	4	2
Total Other comprehensive (loss) income before reclassifications, net of tax	—	(15)	(6)
Net amount reclassified to earnings [5]	8	6	17
Tax (expense) benefit[2]	(2)	(1)	(4)
Total amount reclassified from Accumulated other comprehensive income (loss), net of tax[3]	6	5	13
Total Other comprehensive income (loss)	6	(10)	7
Balance at end of period	$ 1	$ (5)	$ 5
Accumulated other comprehensive loss balance at end of period	$ (1,878)	$ (1,830)	$ (1,841)

(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.

(5) These amounts were recorded in Cost of goods sold in the Statement of Consolidated Operations.

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 2024 or 2023.

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, 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 also contains a provision that allows the Company to increase the facility limit to $325.

The facility limit under the Receivables Purchase Agreement was $250 as of both December 31, 2024 and December 31, 2023, of which $250 was drawn at both December 31, 2024 and December 31, 2023. As collateral against the sold receivables, the SPE maintains a certain level of unsold receivables, which were $201 and $197 as of December 31, 2024 and December 31, 2023, respectively.

The Company sold $1,625 and $1,547 of its receivables without recourse and received cash funding under this program during 2024 and 2023, 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 in Other expense, net 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 2024 and 2023, the Company sold $712 and $593, respectively, of certain customers' receivables in exchange for cash (of which $190 and $158 was outstanding from customers as of December 31, 2024 and December 31, 2023, respectively), the proceeds from which are presented in changes in receivables within operating activities in the Statement of Consolidated Cash Flows. Costs associated with the sales of receivables are reflected in the Company's Statement of Consolidated Operations in Other expense, net for the periods in which the sales occur.

M. Inventories

December 31,	**2024**	**2023**
Finished goods	$ 458	$ 451
Work-in-process	903	891
Purchased raw materials	408	355
Operating supplies	71	68
Total inventories	$ 1,840	$ 1,765

As of December 31, 2024 and 2023, the portion of inventories valued on a LIFO basis was $544 and $446, respectively. If valued on an average-cost basis, total inventories would have been $280 and $236 higher as of December 31, 2024 and 2023, respectively. In 2024, we did not have any LIFO inventory layer liquidations. Reductions in LIFO inventory quantities caused partial liquidations of LIFO inventory layers resulting in the recognition of a benefit of $1 in 2023 and recognition of expense of less than $1 in 2022.

N. Properties, Plants, and Equipment, Net

	December 31, 2024	**December 31, 2023**
Land and land rights	$ 84	$ 88
Structures	1,025	1,018
Machinery and equipment	4,118	4,079
	5,227	5,185
Less: accumulated depreciation and amortization	3,150	3,081
	2,077	2,104
Construction work-in-progress	309	224
Properties, plants, and equipment, net	$ 2,386	$ 2,328

Depreciation expense related to Properties, plants, and equipment recorded in Provision for depreciation and amortization in the Statement of Consolidated Operations was $243, $236, and $227 for the years ended December 31, 2024, 2023, and 2022, 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, 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
Translation and other	(17)	(7)	(1)	—	(25)
Balances at December 31, 2024					
Goodwill	2,826	1,597	305	7	4,735
Accumulated impairment losses	(719)	(4)	(2)	—	(725)
Goodwill, net	$ 2,107	$ 1,593	$ 303	$ 7	$ 4,010

During the 2024 annual review of goodwill in the fourth quarter, management performed quantitative assessments on the Engine Products and Engineered Structures reporting units and qualitative assessments on the Fastening Systems and Forged Wheels reporting units. The estimated fair values of the reporting units exceeded their respective carrying values in excess of 60%; 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, 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 2024, 2023, and 2022 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, 2024	Gross carrying amount	Accumulated amortization	Intangibles, net
Computer software	$ 217	$ (185)	$ 32
Patents and licenses	66	(66)	—
Other intangibles	689	(268)	421
Total amortizable intangible assets	972	(519)	453
Indefinite-lived trade names and trademarks	22	—	22
Total intangible assets, net	$ 994	$ (519)	$ 475

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

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 $33, $35, and $36 for the years ended December 31, 2024, 2023, and 2022, respectively, and is expected to be in the range of approximately $30 to $36 annually from 2025 to 2029.

P. Leases

Operating lease cost includes short-term leases and variable lease payments and approximates cash paid. Operating lease cost was $67, $63, and $61 in 2024, 2023, and 2022, respectively. Operating lease cost in 2024, 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,	2024	2023
Right-of-use assets classified in Other noncurrent assets	$ 155	$ 128
Current portion of lease liabilities classified in Other current liabilities	$ 37	$ 32
Long-term portion of lease liabilities classified in Other noncurrent liabilities and deferred credits	119	97
Total lease liabilities	$ 156	$ 129

Future minimum contractual operating lease obligations were as follows at December 31, 2024:

2025	$ 46
2026	39
2027	29
2028	21
2029	15
Thereafter	39
Total lease payments	$ 189
Less: Imputed interest	(33)
Present value of lease liabilities	$ 156

December 31,	2024	2023	2022
Right-of-use assets obtained in exchange for operating lease obligations	$ 66	$ 68	$ 34
Weighted-average remaining lease term in years	5.9	6.4	5.6
Weighted-average discount rate	5.7 %	5.9 %	5.4 %

Q. Debt

Debt.

December 31,	2024	2023
5.125% Notes, due 2024	$ —	$ 205
6.875% Notes, due 2025	—	600
USD Term Loan Agreement, due 2026	140	200
JPY Term Loan Agreement, due 2026	188	211
5.900% Notes, due 2027	625	625
6.750% Bonds, due 2028	300	300
3.000% Notes, due 2029	700	700
4.850% Notes, due 2031[(1)]	500	—
5.950% Notes, due 2037	625	625
4.750% Iowa Finance Authority Loan, due 2042	250	250
Other, net[(2)]	(13)	(10)
	3,315	3,706
Less: amount due within one year	6	206
Total long-term debt	$ 3,309	$ 3,500

(1) The Company entered into a cross-currency swap to synthetically convert the 2031 Notes into a Euro liability of approximately €458 million with a fixed annual interest rate of 3.720%.

(2) Other, net 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 $5 in 2025, $323 in 2026, $625 in 2027, $300 in 2028, and $700 in 2029.

Public Debt. On August 23, 2024, the Company completed the early redemption of all of the remaining outstanding principal amount of approximately $577 of the 6.875% Notes due May 2025 (the "2025 Notes") in accordance with the terms of the notes. The Company completed the redemption with the net proceeds from the offering of the 4.850% Notes due October 2031 (the "2031 Notes") and cash on hand at an aggregate redemption price of approximately $594, including accrued interest and an early termination premium of approximately $12 and $5, respectively, which were recorded in Interest expense, net, and Loss on debt redemption, respectively, in the Statement of Consolidated Operations.

On August 22, 2024, the Company completed an offering of $500 aggregate principal amount of its 2031 Notes. The Company entered into a cross-currency swap to synthetically convert the 2031 Notes into a Euro liability of approximately €458 million. The fixed interest rate on the Euro liability is approximately 3.720% per annum.

On July 1, 2024, the Company completed the early redemption of all of the remaining outstanding principal amount of $205 of the 5.125% Notes due October 2024 (the "2024 Notes"). The Company redeemed the 2024 Notes at par value plus accrued interest. The 2024 Notes were redeemed with cash on hand at an aggregate redemption price of approximately $208, including accrued interest of approximately $3.

In the second quarter of 2024, the Company repurchased approximately $23 aggregate principal amount of the 2025 Notes through an open market repurchase ("OMR"). The OMR was settled at slightly more than par value.

On December 28, 2023, the Company completed an early partial redemption of its outstanding 2024 Notes in the aggregate principal amount of $500. Such 2024 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 2024 Notes in the aggregate principal amount of $200. Such 2024 Notes were redeemed at par with cash on hand at an aggregate redemption price of approximately $205, including accrued interest of approximately $5.

On March 29, 2023, the Company completed the early partial redemption of an additional $150 aggregate principal amount of the 2024 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 2024 Notes through an OMR. The OMR was settled at slightly less than par value.

In the second and fourth quarters of 2022, the Company repurchased in the open market approximately $69 aggregate principal amount of its 2024 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.

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 provided for a $200 senior unsecured delayed draw term loan facility (the "USD Term Loan Facility"), under which any borrowings mature on November 22, 2026, unless earlier terminated in accordance with the provisions of the USD Term Loan Agreement. Commencing in 2025, the USD Term Loan Facility requires quarterly principal payments through maturity based on a percentage of the original principal amount. The JPY Term Loan Agreement provided for 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"), under which any borrowings mature 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 long-term debt ratings, the applicable margin on base rate loans was 0.375% and 0.500% per annum as of December 31, 2024 and December 31, 2023, respectively, and the applicable margin on Term SOFR loans was 1.375% and 1.500% per annum as of December 31, 2024 and December 31, 2023, respectively.

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 long-term debt ratings, the applicable margin on loans under the JPY Term Loan Facility is 1.500% and 1.625% per annum as of December 31, 2024 and December 31, 2023, respectively.

The Company entered into interest rate swaps to exchange the floating interest rates of the Term Loan Facilities to fixed interest rates. The fixed interest rate on the USD Term Loan was 5.670% and 5.795% as of December 31, 2024 and December 31, 2023, respectively. The fixed interest rate on the JPY Term Loan was 1.919% and 2.044% as of December 31, 2024 and December 31, 2023, respectively.

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 20, 2024, the Company completed an early partial prepayment of its USD Term Loan in the aggregate principal amount of $60. This partial prepayment was made at par value plus accrued interest of less than $1. On December 1, 2023, the Company borrowed ¥29,702 million under the JPY Term Loan Facility.

The amounts outstanding under the USD Term Loan Facility were $140 and $200 as of December 31, 2024 and December 31, 2023, respectively. The amounts outstanding under the JPY Term Loan Facility were ¥29,702 million ($188) and ¥29,702 million ($211) as of December 31, 2024 and December 31, 2023, 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 0.125% 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, there would be no applicable margin on base rate loans and the applicable margin on Term SOFR loans and EURIBOR loans would be 1.000% 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, 2024 and 2023, and no amounts were borrowed during 2024, 2023 or 2022 under the Credit Agreement. As of December 31, 2024, 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.

Commercial Paper. On April 4, 2024, the Company established a commercial paper program under which the Company may issue unsecured commercial paper notes ("commercial paper") from time to time up to a maximum aggregate face amount of $1,000 outstanding at any time. The maturities of the commercial paper may vary but will not exceed 397 days from the date of issue and will rank equal in right of payment with all other unsecured senior indebtedness of the Company. The proceeds of the commercial paper will be used for general corporate purposes.

There were no amounts outstanding under the commercial paper program as of December 31, 2024.

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, and Long-term debt due within one year included in the Consolidated Balance Sheet approximate their fair value. The aforementioned derivatives are included in Prepaid expenses and other current assets, Other noncurrent assets, Other current liabilities, and Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet, as applicable. 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.

	2024		2023	
December 31,	**Carrying value**	**Fair value**	**Carrying value**	**Fair value**
Long-term debt, less amount due within one year	$ 3,309	$ 3,298	$ 3,500	$ 3,504

Restricted cash was $1, less than $1, and $1 in 2024, 2023, and 2022, 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:

	2024	2023	2022
Interest, net of amounts capitalized	$ 180	$ 221	$ 224
Income taxes, net of amounts refunded	$ 177	$ 104	$ 50

The Company incurred capital expenditures which remain unpaid at December 31, 2024, 2023, and 2022 of $97, $72, and $55, 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 approximately 120 days of the invoice date. As of December 31, 2024 and 2023, supplier invoices that are subject to future payment under these programs were $268 and $258, respectively, and are included in Accounts payable, trade in the Consolidated Balance Sheet.

The rollforward of the Company's outstanding obligations confirmed as valid under its supplier financing program for the year ended December 31, 2024 is as follows:

Confirmed obligations outstanding at December 31, 2023	$	258
Invoices confirmed during the year		877
Confirmed invoices paid during the year		(867)
Confirmed obligations outstanding at December 31, 2024	$	268

T. Divestitures

2024 Divestiture

On May 31, 2024, the Company completed the sale of a small manufacturing facility in the U.K. within the Engineered Structures segment. The sale, including post-close adjustments, resulted in a year-to-date charge of $13 that was recorded in Restructuring and other charges in the Statement of Consolidated Operations. The sale remains subject to certain post-closing adjustments.

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 $19 and $17 as of December 31, 2024 and 2023, respectively, and was recorded in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet (of which $10 and $7, respectively, was 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 $2 and $3 in 2024 and 2023, 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 was $17 (€16 million), including $10 (€9 million) of tax and interest up through 2017 and $7 (€7 million) of penalties. The Company estimates additional interest to be $2 (€2 million). On July 23, 2024, the Company received the French Administrative Supreme Court's decision. That decision upheld the assessment of $10 (€9 million) of tax and interest, while cancelling the penalties of $7 (€7 million) and remanding the penalty assessment issue to the Paris Administrative Court of Appeal for reexamination. As a result, the Company has no further right to appeal the assessment of tax and interest but will continue to protest the penalties.

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 tax, 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 including tax, interest, and penalties, to the FTA in December 2023. The Company is expecting to pay the additional interest related to the assessment in 2025. The Company also paid the estimated tax related to the 2020-2023 tax years in 2023. As of the third quarter of 2024, the Company no longer recorded an uncertain tax position related to the tax and interest assessed. In October 2024, the Company received a refund of the penalties that were remanded. We will continue to record an income tax reserve for penalties determined more than likely to be upheld, until the uncertain tax position is settled.

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, and 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, provide for cross-indemnities for claims subject to indemnification between the Company and Alcoa Corporation and between the Company and Arconic Corporation, respectively. To date, Alcoa Corporation and Arconic Corporation have fulfilled their respective indemnification obligations to the Company, and claims subject to indemnification by Alcoa Corporation or Arconic Corporation have not impacted the Company financially. Among other claims that are covered by these indemnities, Arconic Corporation indemnifies the Company (previously named Arconic Inc. and, prior to that, 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"). On September 4, 2024, the Public Inquiry published its Phase 2 report on the Grenfell fire. (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. The claimants in the remaining suits are mediating their claims with the defendants. On June 21, 2024, the Company was joined as a party to proceedings initiated by the Royal Borough of Kensington and Chelsea (RBKC) and Chelsea Tenant Management Organisation Ltd. (KCTMO) that are currently pending against AAP SAS and Whirlpool. By February 14, 2025, RBKC and KCTMO must serve their Particulars of Claim and Schedule of Loss on defendants. (iii) *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 alleged violations of the federal securities laws relating to the Grenfell Fire, 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. On October 22, 2024, the parties executed a settlement term sheet that set forth the material terms and conditions associated with the resolution of this derivative action. On October 28, 2024, November 27, 2024 and January 27, 2025, the parties filed joint status reports regarding this development. On January 28, 2025, the court ordered that the parties file a joint status report or a stipulation of dismissal on or before March 28, 2025. The parties plan to enter into a formal, final Stipulation and Agreement of Settlement, Compromise, and Release in the near term, which will be presented to the court for approval.

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 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 LBIE legal proceedings. The settlement provided for payment of $40: $15 paid in July 2023 and $25 paid in July 2024.

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 against the Company and its subsidiary RTI Advanced Forming, Inc. ("RTI") as defendants. The complaint alleged that the Company and RTI breached a Master Purchase Order 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. Following various claims and counterclaims and court-ordered mediation, the parties reached a confidential settlement agreement on April 2, 2024, to supply until December 31, 2026 subject to revised terms mutually agreed to by the parties. The settlement had no material impact on the results of operations in the current year. The parties stipulated to the dismissal of all claims and counterclaims with prejudice on April 2, 2024.

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 $237 in 2025, $51 in 2026, $42 in 2027, $40 in 2028, $39 in 2029 and none thereafter.

Operating Leases. See Note P for the operating lease future minimum contractual obligations.

Guarantees. As of December 31, 2024, Howmet had outstanding bank guarantees related to tax matters, customs duties, rental, plant expansion, and environmental obligations. The total amount committed under these guarantees, which expire at various dates between 2025 and 2027, was $6 as of December 31, 2024.

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 were included in Other noncurrent liabilities and deferred credits in the Consolidated Balance Sheet. The remaining guarantee, which had a fair value of $6 as of both December 31, 2024 and 2023, relates to a long-term energy supply agreement that expires in 2047 at an Alcoa Corporation facility, for which the Company is secondarily liable in the event of a payment default by Alcoa Corporation. If the Company incurs any liability under this guarantee, Arconic Corporation is obligated to indemnify the Company for 50% of such liability. The Company currently views the risk of an Alcoa Corporation payment default on its obligations under the contract to be remote. The Company is required to provide a guarantee up to an estimated present value amount of approximately $1,121 and $1,131 as of December 31, 2024 and 2023, respectively, in the event of an Alcoa Corporation default. In the fourth quarter of 2024, 2023, and 2022, 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, insurance obligations, and tax matters. The total amount committed under these letters of credit, which automatically renew or expire at various dates, primarily in 2025, was $90 as of December 31, 2024.

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 $48 (which are included in the $90 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 and Alcoa 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 $90 in the above paragraph). 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 customs duties, workers' compensation, environmental-related matters, and contract performance. The total amount committed under these annual surety bonds, which automatically renew or expire at various dates, primarily in 2025 and 2026, was $44 as of December 31, 2024.

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 $44 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, respectively.

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, except as noted below:

See Note I regarding share repurchases made in January 2025.

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, 2024 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 2024, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

Rule 105b5-1 Trading Plans. During the three months ended December 31, 2024, 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.

The Company has an Insider Trading Policy governing the purchase, sale, and/or other dispositions of our securities by our directors, officers, employees and other covered persons, as well as by Howmet itself, that we believe is reasonably designed to promote compliance with insider trading laws, rules and regulations, and applicable listing standards. A copy of our Insider Trading Policy is filed as Exhibit 19 to this Annual Report on Form 10-K.

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, 2024:

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights *(a)*	Weighted-average exercise price of outstanding options, warrants and rights *(b)*	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) *(c)*
Equity compensation plans approved by security holders[1]	2,286,559[1]	$ 20.98	19,641,999[2]
Equity compensation plans not approved by security holders	—	—	—
Total	2,286,559	$ 20.98	19,641,999

(1) Equity compensation plans approved by security holders includes the 2013 Howmet Aerospace Stock Incentive Plan, as Amended and Restated (approved by shareholders in May 2024, May 2019, May 2018, May 2016 and May 2013) (the "2013 Plan"). Table amounts are comprised of the following:

- 146,308 stock options;
- 1,508,395 restricted share units; and
- 631,856 performance share awards (275,047 granted in 2024 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 66,666,666 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 "Stock Ownership Information—Stock Ownership of Certain Beneficial Owners" and "Stock Ownership Information—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*
2(a)	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.
2(b)	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.
2(c)	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.
2(c)(1)	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.
2(d)	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.
2(d)(1)	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.
2(d)(2)	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.
2(e)	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.
2(f)	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.
2(g)	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.
2(h)	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.
2(i)	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 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(h)	Form of 4.850% Notes due 2031, incorporated by reference to Exhibit 4.6 to the Company's Current Report on Form 8-K filed on August 22, 2024.
4(i)	Description of Company 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, incorporated by reference to Exhibit 10(b) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
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, incorporated by reference to Exhibit 10(c) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
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, incorporated by reference to Exhibit 10(f)(3) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(f)(4)	Fourth Amendment to the Howmet Aerospace Hourly Retirement Savings Plan, as Amended and Restated, incorporated by reference to Exhibit 10(f)(4) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(f)(5)	Fifth 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, incorporated by reference to Exhibit 10(g)(2) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(g)(3)	Third 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, 2025, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2024.
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 the year ended December 31, 1995.
10(l)(2)	Second Amendment to the Fee Continuation Plan for Non-Employee Directors, effective September 15, 2006, incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated September 20, 2006.

10(m)	Howmet Aerospace Deferred Compensation Plan, as amended and restated February 1, 2020, incorporated by reference to Exhibit 10(m) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(m)(1)	First Amendment to the Howmet Aerospace Deferred Compensation Plan, as Amended and Restated, incorporated by reference to Exhibit 10(m)(1) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(m)(2)	Second Amendment 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(v)(1)	Restricted Share Unit Retention Award Agreement with Michael N. Chanatry, dated as of April 15, 2024. incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2024.
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, incorporated by reference to Exhibit 10(dd) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
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(ee)(1)	Restricted Share Unit Retention Award Agreement with Neil E. Marchuk, dated as of October 21, 2024
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, incorporated by reference to Exhibit 10(gg) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(hh)	Howmet Aerospace Stock Incentive Plan, as Amended and Restated, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated May 29, 2024.
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(jj)	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, incorporated by reference to Exhibit 10(ss) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(tt)	Global Special Retention Award Agreement, effective December 7, 2023, incorporated by reference to Exhibit 10(tt) to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
10(tt)(1)	Form of Special Retention Award Agreement.
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.
19	Howmet Aerospace Insider Trading Policy.
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, incorporated by reference to Exhibit 97 to the Company's Annual Report on Form 10-K for the year ended December 31, 2023.
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, 2024 (formatted in Inline XBRL and contained in Exhibit 101).

* Exhibit Nos. 10(f) through 10(ww) 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, 2025	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.

Signature	Title	Date
/s/ John C. Plant		February 13, 2025
John C. Plant	Executive Chairman and Chief Executive Officer (Principal Executive Officer and Director)	
/s/ Ken Giacobbe		February 13, 2025
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, 2025, by Barbara L. Shultz, their Attorney-in-Fact.*

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

Exhibit 21

SUBSIDIARIES OF THE REGISTRANT
(As of December 31, 2024)

Name	State or Country of Organization
Howmet Aerospace Inc.	Delaware, US
Howmet Domestic LLC	Delaware, US
Howmet International Inc.	Delaware, US
Howmet Holdings Corporation	Delaware, US
Howmet Corporation	Delaware, US
Howmet Castings & Services, Inc.	Delaware, US
Cordant Technologies Holding Company	Delaware, US
Howmet Global Fastening Systems Inc.	Delaware, US
FR Acquisition Corporation (US), Inc.	Delaware, US
JFB Firth Rixson Inc.	Delaware, US
Howmet International Holding Company LLC	Delaware, US
Howmet Luxembourg S.à r.l.	Luxembourg
Howmet Global Treasury Services S.a.r.l.	Luxembourg
Howmet-Köfém Kft	Hungary
Howmet Holdings Limited	United Kingdom
FR Acquisitions Corporation Europe Limited	United Kingdom

The names of particular subsidiaries have been omitted because, considered in the aggregate as a single subsidiary, they would not constitute, as of the end of the year covered by this report, a “significant subsidiary” as that term is defined in Regulation S-X under the Securities Exchange Act of 1934.

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-272154 and 333-274124) and Form S-8 (Nos. 333-266545, 333-229914, 333-209772, 333-182899, 333-170801, 333-168428, 333-153369, 333-146330, 333-128445, 333-106411, 333-32516, 333-155668, 333-232219, 333-212246, 333-189882, 333-229727 and 333-203275) of Howmet Aerospace Inc. of our report dated February 13, 2025 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Pittsburgh, Pennsylvania
February 13, 2025

Exhibit 31

Certifications

I, John C. Plant, certify that:

1. I have reviewed this annual report on Form 10-K of Howmet Aerospace Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 13, 2025

/s/ John C. Plant

John C. Plant

Executive Chairman and Chief Executive Officer

I, Ken Giacobbe, certify that:

1. I have reviewed this annual report on Form 10-K of Howmet Aerospace Inc.;

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

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

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

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

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

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

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

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

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

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

Date: February 13, 2025

/s/ Ken Giacobbe

Ken Giacobbe

Executive Vice President and Chief Financial Officer

Exhibit 32

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), each of the undersigned officers of Howmet Aerospace Inc., a Delaware corporation (the "Company"), does hereby certify that:

The Annual Report on Form 10-K for the period ended December 31, 2024 (the "Form 10-K") of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated:	February 13, 2025	/s/ John C. Plant
		John C. Plant
		Executive Chairman and Chief Executive Officer

Dated:	February 13, 2025	/s/ Ken Giacobbe
		Ken Giacobbe
		Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

The foregoing certification is being furnished to the Securities and Exchange Commission as an exhibit to the Form 10-K and shall not be considered filed as part of the Form 10-K.

Calculation of Financial Measures (unaudited)

Non-GAAP Financial Measures

Some of the information included in this annual report is derived from Howmet Aerospace's consolidated financial information but is not presented in Howmet Aerospace's financial statements prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). Certain of these data are considered "non-GAAP financial measures" under SEC rules. These non-GAAP financial measures supplement our GAAP disclosures and should not be considered an alternative to the GAAP measure. Reconciliations to the most directly comparable GAAP financial measures and management's rationale for the use of the non-GAAP financial measures can be found below.

Reconciliation of Adjusted EBITDA excluding Special Items

($ in millions)	Year ended December 31,	
	2024	2023
Net income	$1,155	$765
Add:		
Provision for income taxes	$228	$210
Other expense, net	62	8
Loss on debt redemption	6	2
Interest expense, net	182	218
Restructuring and other charges	21	23
Provision for depreciation and amortization	277	272
Adjusted EBITDA	$1,931	$1,498
Add:		
Plant fire reimbursements, net	$(18)	$(12)
Collective bargaining agreement negotiations	—	8
Costs associated with closures, supply chain disruptions, and other items	1	14
Adjusted EBITDA excluding Special items	$1,914	$1,508

Adjusted EBITDA and Adjusted EBITDA excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because they provide additional information with respect to the Company's operating performance and the Company's ability to meet its financial obligations. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies. The Company's definition of 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 Adjusted EBITDA.

Calculation of Financial Measures (unaudited), continued

Reconciliation of Adjusted EBITDA Margin excluding Special Items

($ in millions)	Quarter ended			
	1Q24	2Q24	3Q24	4Q24
Third-party sales	$1,824	$1,880	$1,835	$1,891
Operating income	$369	$398	$421	$445
Operating income margin	20.2%	21.2%	22.9%	23.5%
Net income	$243	$266	$332	$314
Add:				
Provision for income taxes	$60	$68	$22	$78
Other expense, net	17	15	17	13
Loss on debt redemption	—	—	6	—
Interest expense, net	49	49	44	40
Restructuring and other charges (credits)	—	22	(1)	—
Provision for depreciation and amortization	67	69	68	73
Adjusted EBITDA	$436	$489	$488	$518
Add:				
Plant fire reimbursements, net	$—	$(6)	$—	$(12)
Costs (benefits) associated with closures, supply chain disruptions, and other items	1	—	(1)	1
Adjusted EBITDA excluding Special items	$437	$483	$487	$507
Adjusted EBITDA Margin excluding Special items	24.0%	25.7%	26.5%	26.8%

Adjusted EBITDA, Adjusted EBITDA excluding Special items, Adjusted EBITDA Margin excluding Special items and Third-party sales are non-GAAP financial measures. Management believes that these measures are meaningful to investors because they provide additional information with respect to the Company's operating performance and the Company’s ability to meet its financial obligations. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies. The Company's definition of 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 (credits), are excluded from Adjusted EBITDA.

Calculation of Financial Measures (unaudited), continued

Reconciliation of Free Cash Flow

($ in millions)	Quarter ended				Year ended December 31,	
	1Q24	2Q24	3Q24	4Q24	2024	2023
Cash provided from operations	$177	$397	$244	$480	$1,298	$901
Capital expenditures	(82)	(55)	(82)	(102)	(321)	(219)
Free cash flow (a)	$95	$342	$162	$378	$977	$682
Net income (b)					$1,155	$765
Free cash flow conversion as a percentage of Net income[1] (a)/(b)					85%	89%
Net income excluding Special items[2] (c)					$1,107	$766
Free cash flow conversion as a percentage of Net income excluding Special items[1] (a)/(c)					88%	89%

The Accounts Receivable Securitization program remains unchanged at $250 outstanding.

Free cash flow and Free cash flow conversion as a percentage of Net income excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews cash flows generated from operations after taking into consideration capital expenditures (due to the fact that these expenditures are considered necessary to maintain and expand the Company's asset base and are expected to generate future cash flows from operations). It is important to note that Free cash flow does not represent the residual cash flow available for discretionary expenditures since other non-discretionary expenditures, such as mandatory debt service requirements, are not deducted from the measure.

(1) We compute free cash flow conversion on an annual basis only due to the cycle of our business.

(2) Please refer to the Reconciliation of Net income excluding Special items for the reconciliation from Net income to Net income excluding Special items.

Calculation of Financial Measures (unaudited), continued

Reconciliation of Net Income excluding Special items and Diluted Earnings Per Share (EPS) excluding Special Items

($ in millions, except per-share amounts)	Net income excluding Special items	
	Year ended December 31,	
	2024	2023
Net income	$1,155	$765
Diluted EPS	$2.81	$1.83
Special items:		
Restructuring and other charges	$21	$23
Discrete and other tax items[1]	$(59)	$(9)
Other special items:		
Loss on debt redemption	6	2
Plant fire reimbursements, net	(18)	(12)
Collective bargaining agreement negotiations	—	8
Settlement from legal proceeding	—	(24)
Costs associated with closures, supply chain disruptions, and other items	1	13
Total Other special items	$(11)	$(13)
Tax impact[2]	1	—
Net income excluding Special items	$1,107	$766
Average shares outstanding - diluted	410	416
Diluted EPS excluding Special items	$2.69	$1.84

Net income excluding Special items and Diluted EPS excluding Special items are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews the operating results of the Company excluding the impacts of Restructuring and other charges, Discrete tax items, and Other special items (collectively, “Special items”). There can be no assurances that additional Special items will not occur in future periods. To compensate for this limitation, management believes that it is appropriate to consider both Net income and Diluted EPS determined under GAAP as well as Net income excluding Special items and Diluted EPS excluding Special items.

(1) Discrete tax items for each period included the following:

- for the year ended December 31, 2023, a charge for a tax reserve established in France $20, a benefit to release a valuation allowance related to U.S. foreign tax credits ($14), an excess benefit for stock compensation ($9), a benefit to release a valuation allowance related to U.S. state tax losses and tax credits ($2), a benefit to revalue deferred taxes for changes to apportioned U.S. state tax rates ($2), and a net benefit for other small items ($2); and
- for the year ended December 31, 2024, a net benefit related to additional U.S. federal and state research and development ("R&D") credits claimed for prior years upon completion of the Company's R&D study ($44), an excess tax benefit for stock compensation ($10), a benefit to release a valuation allowance related to U.S. state tax losses and credits ($6), a benefit to release a valuation allowance related to U.S foreign tax credits ($4), a net charge for prior year audit assessments and tax adjustments $4, and a charge for other small items $1.

(2) The tax impact on Special items is based on the applicable statutory rates whereby the difference between such rates and the Company’s consolidated estimated annual effective tax rate is itself a Special item.

Calculation of Financial Measures (unaudited), continued

Reconciliation of Net Debt to Adjusted EBITDA excluding Special items

($ in millions)

	Trailing-12 months ended December 31, 2024
Net income (a)	$1,155
Add:	
Provision for income taxes	228
Other expense, net	62
Loss on debt redemption	6
Interest expense, net	182
Restructuring and other charges	21
Provision for depreciation and amortization	277
Adjusted EBITDA	$1,931
Add:	
Plant fire reimbursements, net	(18)
Costs associated with closures, supply chain disruptions, and other items	1
Adjusted EBITDA excluding Special items (b)	$1,914
Long-term debt due within one year	$6
Long-term debt, less amount due within one year	$3,309
Total Debt, at period end (c)	$3,315
Less: Cash, cash equivalents, and restricted cash, at period end	$565
Net debt, at period end (d)	$2,750
Total Debt to Net income (c)/(a)	2.9
Net Debt to Adjusted EBITDA excluding Special items (d)/(b)	1.4

Net debt, Net debt to Adjusted EBITDA, Adjusted EBITDA, and Adjusted EBITDA excluding Special items are non-GAAP financial measures. The Company's definition of 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. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies. Management believes that these measures are meaningful to investors because management assesses the Company's leverage position after factoring in cash that could be used to repay outstanding debt, and also because they provide additional information with respect to the Company’s operating performance and the Company’s ability to meet its financial obligations.

Forward-Looking Statements

This Annual Report contains 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”, “envisions”, “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 Aerospace’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 or operating performance; future strategic actions; Howmet Aerospace’s strategies, outlook, and business and financial prospects; and any future dividends, debt issuances, debt reduction and repurchases of its common stock. These statements reflect beliefs and assumptions that are based on the Howmet Aerospace’s perception of historical trends, current conditions and expected future developments, as well as other factors Howmet Aerospace believes are appropriate in the circumstances. Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties, and changes in circumstances that are difficult to predict, which could cause actual results to differ materially from those indicated by these statements. The risks, uncertainties and other factors that may cause Howmet’s actual results to differ materially from those projected in any forward-looking statements are described in the following sections of our 2024 Annual Report on Form 10-K included in this report, as well as other reports filed with the U.S. Securities and Exchange Commission: 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.

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DIRECTORS

(As of March 31, 2025)

James F. Albaugh	*Former President and Chief Executive Officer for Commercial Airplanes, The Boeing Company; Former President and Chief Executive Officer for Integrated Defense Systems, The Boeing Company*
Amy E. Alving	*Former Senior Vice President and Chief Technology Officer, Leidos Holdings, Inc.*
Sharon R. Barner	*Vice President, Chief Administrative Officer, Cummins Inc.*
Joseph S. Cantie	*Former Executive Vice President and Chief Financial Officer, ZF TRW*
Robert L. Leduc	*Former President, Pratt & Whitney*
David J. Miller	*Equity Partner, Senior Portfolio Manager, Elliott Investment Management, L.P.*
Jody G. Miller	*Former Co-Chief Executive Officer, Business Talent Group*
John C. Plant	*Executive Chairman and Chief Executive Officer, Howmet Aerospace Inc.*
Ulrich R. Schmidt	*Former Executive Vice President and Chief Financial Officer, Spirit Aerosystems Holdings, Inc.*
Gunner S. Smith	*President, Roofing, Owens Corning*

OFFICERS

(As of March 31, 2025)

John C. Plant
Executive Chairman
Chief Executive Officer

Michael Chanatry
Vice President
Chief Commercial Officer

Kenneth J. Giacobbe
Executive Vice President
Chief Financial Officer

Lola F. Lin
Executive Vice President
Chief Legal and Compliance Officer
Secretary

Neil E. Marchuk
Executive Vice President
Chief Human Resources Officer

Paul Myron
Vice President
Treasurer

Barbara L. Shultz
Vice President
Controller

ASSISTANT OFFICERS

(As of March 31, 2025)

Margaret S. Lam
Assistant Secretary
Associate General Counsel
Chief Securities and Governance Counsel

Catherine D. Parroco
Assistant Secretary

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SHAREHOLDER INFORMATION

COMPANY NEWS

Visit www.howmet.com for Howmet Aerospace's Securities and Exchange Commission filings, quarterly earnings reports, and other Company news.

Copies of the Company's annual report, proxy statement, and Forms 10-K and 10-Q may be requested at no cost by visiting www.howmet.com/investors, by writing to:
Howmet Aerospace
Attention: Corporate Secretary's Office
201 Isabella Street, Suite 200
Pittsburgh, PA 15212
or by email: CorporateSecretary@howmet.com

INVESTOR INFORMATION

Securities analysts and investors may write to:
Howmet Aerospace
Attention: Investor Relations
201 Isabella Street, Suite 200
Pittsburgh, PA 15212
call 1-412-553-1950
or by email: InvestorRelations@howmet.com

OTHER PUBLICATIONS

For more information on Howmet Aerospace Foundation and Howmet Aerospace community investments, visit: www.howmet.com/foundation

For Howmet Aerospace's Environmental, Social and Governance Report, visit: www.howmet.com/esg-report, write to: Howmet Aerospace
Attention: Corporate Sustainability
201 Isabella Street, Suite 200
Pittsburgh, PA 15212
or by email: Sustainability@howmet.com

DIVIDENDS

Cash dividend decisions are made by Howmet Aerospace's Board of Directors and are reviewed on a regular basis.

DIVIDEND REINVESTMENT

Howmet Aerospace's transfer agent sponsors and administers a Dividend Reinvestment and Stock Purchase Plan for shareholders of Howmet Aerospace's common stock. The plan allows shareholders to reinvest all or part of their quarterly dividends in shares of Howmet Aerospace common stock. Shareholders may also purchase additional shares of common stock under the plan with cash contributions.

DIRECT DEPOSIT OF DIVIDENDS

Shareholders may have their quarterly dividends deposited directly to their checking, savings or money market accounts at any financial institution that participates in the Automated Clearing House system.

REGISTERED SHAREHOLDER SERVICES

Registered shareholders with questions on account balances, dividend checks, reinvestment, direct deposit, address changes, lost or misplaced stock certificates, or other shareholder account matters may contact Howmet Aerospace's stock transfer agent, registrar, and dividend-disbursing agent, Computershare:

By telephone:
1-800-851-9677 (in the United States and Canada)
1-201-680-6578 (all other callers)
1-800-231-5469 (Telecommunications Device for the Deaf: TDD)

On the web:
www.computershare.com

By regular mail:
Computershare Investor Services
P.O. Box 43006
Providence, RI 02940-3006

By overnight correspondence:
Computershare Investor Services
150 Royall Street
Suite 101
Canton, MA 02021

For shareholder questions on other matters, write to:
Howmet Aerospace
Attention: Corporate Secretary's Office
201 Isabella Street, Suite 200
Pittsburgh, PA 15212
call 1-412-553-1940
or by email: CorporateSecretary@howmet.com

STOCK LISTING

Common Stock
New York Stock Exchange | Ticker symbol: **HWM**

$3.75 Cumulative Preferred Stock (Class A)
NYSE American | Ticker symbol: **HWM PR**

HOWMET AEROSPACE | **2024** ANNUAL REPORT

ON THE COVER:
Howmet Aerospace is a global leader in advanced engineered solutions — including those shown here — providing differentiated technologies to enable lighter, more fuel-efficient aircraft, industrial gas turbines, and commercial vehicles to operate with a lower carbon footprint.

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