UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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FORM 10-K

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

For the Fiscal Year Ended December 31, 2023
Commission File Number 1-4949

CUMMINS INC.

Indiana	**35-0257090**
(State of Incorporation)	(IRS Employer Identification No.)

500 Jackson Street
Box 3005
Columbus, Indiana 47202-3005
(Address of principal executive offices)

Telephone (812) 377-5000

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, $2.50 par value	CMI	New York Stock Exchange

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

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

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

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

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 x No o

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

Large accelerated filer	x	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. o

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. Yes ☒ No ☐

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). o

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

The aggregate market value of the voting stock held by non-affiliates was approximately $34.7 billion at June 30, 2023. This value includes all shares of the registrant's common stock, except for treasury shares.

As of January 31, 2024, there were 141,856,847 shares outstanding of $2.50 par value common stock.

Documents Incorporated by Reference

Portions of the registrant's definitive Proxy Statement for its 2024 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission on Schedule 14A within 120 days after the end of 2023, will be incorporated by reference in Part III of this Form 10-K to the extent indicated therein upon such filing.

CUMMINS INC. AND SUBSIDIARIES

TABLE OF CONTENTS

Cummins Inc. and its consolidated subsidiaries are hereinafter sometimes referred to as "Cummins," "we," "our," or "us."

CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING INFORMATION

Certain parts of this annual report contain forward-looking statements intended to qualify for the safe harbors from liability established by the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those that are based on current expectations, estimates and projections about the industries in which we operate and management’s beliefs and assumptions. Forward-looking statements are generally accompanied by words such as "anticipates," "expects," "forecasts," "intends," "plans," "believes," "seeks," "estimates," "could," "should," "may" or words of similar meaning. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which we refer to as "future factors," which are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. Some future factors that could cause our results to differ materially from the results discussed in such forward-looking statements are discussed below and shareholders, potential investors and other readers are urged to consider these future factors carefully in evaluating forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date hereof. Future factors that could affect the outcome of forward-looking statements include the following:

GOVERNMENT REGULATION

- any adverse consequences resulting from entering into the Agreement in Principle, including required additional mitigation projects, adverse reputational impacts and potential resulting legal actions;
- increased scrutiny from regulatory agencies, as well as unpredictability in the adoption, implementation and enforcement of emission standards around the world;
- evolving environmental and climate change legislation and regulatory initiatives;
- changes in international, national and regional trade laws, regulations and policies;
- changes in taxation;
- global legal and ethical compliance costs and risks;
- future bans or limitations on the use of diesel-powered products;

BUSINESS CONDITIONS / DISRUPTIONS

- failure to successfully integrate and / or failure to fully realize all of the anticipated benefits of the acquisition of Meritor, Inc. (Meritor);
- raw material, transportation and labor price fluctuations and supply shortages;
- aligning our capacity and production with our demand;
- the actions of, and income from, joint ventures and other investees that we do not directly control;

- large truck manufacturers' and original equipment manufacturers' customers discontinuing outsourcing their engine supply needs or experiencing financial distress, or change in control;

PRODUCTS AND TECHNOLOGY

- product recalls;
- variability in material and commodity costs;
- the development of new technologies that reduce demand for our current products and services;
- lower than expected acceptance of new or existing products or services;
- product liability claims;
- our sales mix of products;

GENERAL

- uncertainties and risks related to timing and potential value to both Atmus Filtration Technologies Inc. (Atmus) and Cummins of the planned separation of Atmus, including business, industry and market risks, as well as the risks involving the anticipated favorable tax treatment if there is a significant delay in the completion of the envisioned separation;
- climate change, global warming, more stringent climate change regulations, accords, mitigation efforts, greenhouse gas regulations or other legislation designed to address climate change;
- our plan to reposition our portfolio of product offerings through exploration of strategic acquisitions and divestitures and related uncertainties of entering such transactions;
- increasing interest rates;
- challenging markets for talent and ability to attract, develop and retain key personnel;
- exposure to potential security breaches or other disruptions to our information technology environment and data security;
- political, economic and other risks from operations in numerous countries including political, economic and social uncertainty and the evolving globalization of our business;
- competitor activity;
- increasing competition, including increased global competition among our customers in emerging markets;
- failure to meet environmental, social and governance (ESG) expectations or standards, or achieve our ESG goals;
- labor relations or work stoppages;
- foreign currency exchange rate changes;
- the performance of our pension plan assets and volatility of discount rates;
- the price and availability of energy;
- continued availability of financing, financial instruments and financial resources in the amounts, at the times and on the terms required to support our future business; and
- other risk factors described in Item 1A. under the caption "Risk Factors."

Shareholders, potential investors and other readers are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements made herein are made only as of the date of this annual report and we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

ITEM 1. Business

OVERVIEW

We were founded in 1919 as Cummins Engine Company, a corporation in Columbus, Indiana, and one of the first diesel engine manufacturers. In 2001, we changed our name to Cummins Inc. We are a global power leader that designs, manufactures, distributes and services diesel, natural gas, electric and hybrid powertrains and powertrain-related components including filtration, aftertreatment, turbochargers, fuel systems, valvetrain technologies, controls systems, air handling systems, automated transmissions, axles, drivelines, brakes, suspension systems, electric power generation systems, batteries, electrified power systems, hydrogen production technologies and fuel cell products. We sell our products to original equipment manufacturers (OEMs), distributors, dealers and other customers worldwide. We serve our customers through a service network of approximately 450 wholly-owned, joint venture and independent distributor locations and more than 19,000 Cummins certified dealer locations in approximately 190 countries and territories.

Meritor Acquisition

On August 3, 2022, we completed the acquisition of Meritor with a purchase price of $2.9 billion (including debt repaid concurrent with the acquisition). Our consolidated results and segment results include Meritor's activity since the date of acquisition. Meritor was split into the newly formed axles and brakes business and electric powertrain. The results for the axles and brakes business are included in our Components segment while the electric powertrain portion is included in our Accelera segment. See NOTE 24, "ACQUISITIONS," to the Consolidated Financial Statements for additional information.

OPERATING SEGMENTS

As previously announced, beginning in the first quarter of 2023, we realigned certain businesses and regions within our reportable segments to be consistent with how our segment managers monitor the performance of our segments. We reorganized the businesses within our Components segment to carve out the electronics business into the newly formed software and electronics business and combined the turbo technologies and fuel systems businesses into the newly formed engine components business. On May 26, 2023, with the initial public offering (IPO), we changed the name of our Components' filtration business to Atmus. Our Components segment now consists of the following businesses: axles and brakes, emission solutions, engine components, Atmus, automated transmissions and software and electronics. In the first quarter of 2023, as a result of the indefinite suspension of operations in Russia, we reorganized the regional management structure of our Distribution segment and moved all Commonwealth of Independent States (CIS) sales into the Europe and Africa and Middle East regions. The Russian portion of prior period CIS sales moved to the Europe region. In March 2023, we rebranded our New Power segment as "Accelera" to better represent our commitment to zero-emission technologies. In addition, we moved our NPROXX joint venture from the Accelera segment to the Engine segment, which adjusted both the equity, royalty and interest income (loss) from investees and segment EBITDA (defined as earnings or losses before interest expense, income taxes, depreciation, amortization and noncontrolling interests) line items for the prior years. We started to report results for the changes within our operating segments effective January 1, 2023, and reflected these changes in the historical periods presented. See NOTE 23, "FORMATION OF ATMUS AND IPO," to our Consolidated Financial Statements for additional information about the Atmus IPO.

We have five complementary operating segments: Components, Engine, Distribution, Power Systems and Accelera. These segments share technology, customers, strategic partners, brand recognition and our distribution network in order to compete more efficiently and effectively in their respective markets. In each of our operating segments, we compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. Our products primarily compete on the basis of performance, price, total cost of ownership, fuel economy, emissions compliance, speed of delivery, quality and customer support.

We use segment EBITDA as the basis for the Chief Operating Decision Maker to evaluate the performance of each of our reportable operating segments. We believe EBITDA is a useful measure of our operating performance as it assists investors and debt holders in comparing our performance on a consistent basis without regard to financing methods, capital structure, income taxes or depreciation and amortization methods, which can vary significantly depending upon many factors. See NOTE 25, "OPERATING SEGMENTS," to the Consolidated Financial Statements for additional information and a reconciliation of our segment information to the corresponding amounts in our Consolidated Statements of Net Income.

Components Segment

Components segment sales and EBITDA as a percentage of consolidated results were:

	Years ended December 31,		
	2023	**2022**	**2021**
Percent of consolidated net sales [(1)]	**32 %**	28 %	26 %
Percent of consolidated EBITDA [(1)]	**36 %**	33 %	33 %

[(1)] Measured before intersegment eliminations

The Components segment supplies products which complement the Engine and Power Systems segments, including axles, drivelines, brakes and suspension systems for commercial diesel and natural gas applications, aftertreatment systems, turbochargers, fuel systems, valvetrain technologies, filtration products, automated transmissions and electronics. We develop drivetrain systems, aftertreatment systems, turbochargers, fuel systems, transmissions and electronics to meet increasingly stringent emission and fuel economy standards.

In conjunction with the realignment of certain businesses during the first quarter of 2023, the Components segment is organized around the following businesses:

- **Axles and brakes -** We design, manufacture and supply drivetrain systems, including axles, drivelines, brakes and suspension systems primarily for commercial vehicle and industrial applications. We also market and sell truck, trailer, on- and off-highway and other products principally for OEM dealers and other independent distributors and service garages within the aftermarket industry. We primarily serve markets in North America, Europe, South America, India, Asia Pacific and China.
- **Emission solutions -** We are a global leader in designing, manufacturing and integrating aftertreatment technology and solutions for the commercial on- and off-highway light-duty, medium-duty, heavy-duty and high-horsepower engine markets. Aftertreatment is the mechanism used to convert engine emissions of criteria pollutants, such as particulate matter, nitrogen oxides (NOx), carbon monoxide and unburned hydrocarbons into harmless emissions. Our products include custom engineering systems and integrated controls, oxidation catalysts, particulate filters, selective catalytic reduction systems and engineered components, including dosers. Our emission solutions business primarily serves markets in North America, Europe, China, India, Brazil and Asia Pacific. We serve both OEM first fit and retrofit customers.
- **Engine components -** We design, manufacture and market turbocharger, fuel system and valvetrain technologies for light-duty, mid-range, heavy-duty and high-horsepower markets across North America, China, Europe and India.
- **Atmus -** We design, manufacture and sell filters, coolants and chemical products. Our business offers a full spectrum of filtration solutions for first fit and aftermarket applications including air filters, fuel filters, fuel water separators, lube filters, hydraulic filters, coolants, fuel additives and other filtration systems to OEMs, dealers/distributors and end-users. We support a wide customer base in a diverse range of markets including on- and off-highway segments such as oil and gas, agriculture,

mining, construction, power generation and marine. We produce and sell globally recognized Fleetguard® branded products globally including in North America, Europe, Asia Pacific, South America, China, Africa and Middle East. Fleetguard products are available through thousands of distribution points worldwide.

- **Automated transmissions -** We develop and supply automated transmissions for the heavy-duty commercial vehicle market. Automated transmissions include automated manual transmissions, dual-clutch transmissions and automatic transmissions for internal combustion engines. The Eaton Cummins Automated Transmission Technologies (ECJV) joint venture is a consolidated 50/50 joint venture between Cummins Inc. and Eaton Corporation Plc. and serves markets in North America and China.
- **Software and electronics -** We develop, supply and remanufacture control units, specialty sensors, power electronics, actuators and software for on-highway, off-highway and power generation applications. We primarily serve markets in the Americas, China, India and Europe.

Customers of the Components segment generally include the Engine, Distribution, Power Systems and Accelera segments, joint ventures including Tata Cummins Ltd. and Beijing Foton Cummins Engine Co., Ltd., truck manufacturers and other OEMs, many of which are also customers of the Engine segment, such as PACCAR Inc. (PACCAR), Traton Group (Traton), Daimler Trucks North America (Daimler), Beiqi Foton Motor Company, Volvo, Stellantis N.V. (Stellantis), Komatsu Ltd. (Komatsu) and other manufacturers that use our components in their product platforms.

The Components segment competes with other manufacturers of aftertreatment systems, filtration, turbochargers, fuel systems, drivetrain systems and transmissions. Our primary competitors in these markets include Robert Bosch GmbH, Donaldson Company, Inc., Parker-Hannifin Corporation, Mann+Hummel Group, Garrett Motion, Inc., Borg-Warner Inc., Tenneco Inc., Eberspacher Holding GmbH & Co. KG, Denso Corporation, Allison Transmission, Aisin Seiki Co., Ltd., ZF Friedrichshafen AG and Dana Incorporated.

Engine Segment

Engine segment sales and EBITDA as a percentage of consolidated results were:

	Years ended December 31,		
	2023	**2022**	**2021**
Percent of consolidated net sales [(1)]	**28 %**	31 %	33 %
Percent of consolidated EBITDA [(1)]	**32 %**	38 %	39 %

[(1)] Measured before intersegment eliminations

The Engine segment manufactures and markets a broad range of diesel and natural gas-powered engines under the Cummins brand name, as well as certain customer brand names, for the heavy-duty truck, medium-duty truck and bus, light-duty automotive and off-highway markets. We manufacture a wide variety of engine products including:

- Engines with a displacement range of 2.8 to 15 liters and horsepower ranging from 48 to 715 and
- New parts and service, as well as remanufactured parts and engines, primarily through our extensive distribution network.

The Engine segment is organized by engine displacement size and serves these end-user markets:

- **Heavy-duty truck -** We manufacture diesel and natural gas engines that range from 310 to 615 horsepower serving global heavy-duty truck customers worldwide, primarily in North America, China and Australia.
- **Medium-duty truck and bus -** We manufacture diesel and natural gas engines ranging from 130 to 450 horsepower serving medium-duty truck and bus customers worldwide, with key markets including North America, Europe, Latin America, China, Australia and India. Applications include pick-up, delivery, emergency vehicles, regional haul and vocational trucks and school, transit and shuttle buses. We also provide diesel engines for Class A motor homes (RVs), primarily in North America.
- **Light-duty automotive (pick-up and light commercial vehicle (LCV)) -** We manufacture 105 to 400 horsepower diesel engines, including engines for the pick-up truck market for Stellantis in North America and LCV markets in Latin America and China.
- **Off-highway -** We manufacture diesel engines that range from 48 to 715 horsepower serving key global markets including construction, mining, marine, rail, oil

and gas, defense and agriculture and also the power generation business for standby, mobile and distributed power generation solutions throughout the world.

The principal customers of our heavy-duty truck engines include truck manufacturers such as PACCAR, Traton and Daimler. The principal customers of our medium-duty truck and bus engines include truck manufacturers such as Daimler, Traton and PACCAR. The principal customers of our light-duty on-highway engines are Anhui Jianghuai Automobile Group Co., Ltd., Volkswagen Caminhões e Ônibus and China National Heavy Duty Truck Group. The principal customer of our pick-up on-highway engines is Stellantis. We sell our industrial engines to manufacturers of construction and agricultural equipment including Hyundai Heavy Industries, Komatsu, Zoomlion Heavy Industry Science & Technology Co., Ltd, Xuzhou Construction Machinery Group, Guangxi LiuGong Machinery Co., Ltd, JLG Industries, Inc. and Sany Group.

In the Engine segment, our competitors vary from country to country, with local manufacturers generally predominant in each geography. Other independent engine manufacturers include Weichai Power Co. Ltd. and Deutz AG. Truck OEMs may also elect to produce their own engines, and we must provide competitive products to win and keep their business. Truck OEMs that currently produce some or all of their own engines include Daimler, PACCAR, Traton, Volvo Powertrain, Ford Motor Company, China First Auto Works, Dongfeng Motor Corporation, CNH Industrial and Isuzu.

Distribution Segment

Distribution segment sales and EBITDA as a percentage of consolidated results were:

	Years ended December 31,		
	2023	2022	2021
Percent of consolidated net sales [(1)]	**25 %**	26 %	26 %
Percent of consolidated EBITDA [(1)]	**24 %**	22 %	20 %

[(1)] Measured before intersegment eliminations

The Distribution segment is our primary sales, service and support channel. The segment serves our customers and certified dealers through a worldwide network of wholly-owned, joint venture and independent distribution locations. Wholly-owned locations operate and serve markets in the seven geographic regions noted below. Joint venture locations serve markets in South America, Southeast Asia, India, Middle East and Africa, while independent distribution locations serve markets in these and other geographies.

Distribution's mission encompasses the sales and support of a wide range of products and services, including power generation systems, high-horsepower engines, heavy-duty and medium-duty engines designed for on- and off-highway use, application engineering services, custom-designed assemblies, retail and wholesale aftermarket parts and in-shop and field-based repair services. We also provide selected sales and aftermarket support for the Accelera business. Our familiarity with a wide range of market applications allows us to tailor sales, service and support to meet customer-specific needs.

As previously announced, due to the indefinite suspension of operations in Russia, we reorganized the regional management structure of our Distribution segment and moved all CIS sales into the Europe and Africa and Middle East regions. The Russian portion of prior period CIS sales moved to the Europe region. We started to report results for our new regional management structure in the first quarter of 2023 and reflected these changes for historical periods. The Distribution segment is organized and managed as seven geographic regions, including North America, Asia Pacific, Europe, China, Africa and Middle East, India and Latin America. Across these regions, our locations compete with distributors or dealers that offer similar products. In many cases, these competing distributors or dealers are owned by, or affiliated with the companies that are listed as competitors of the Components, Engine or Power Systems segments. These competitors vary by geographical location and application market.

Power Systems Segment

Power Systems segment sales and EBITDA as a percentage of consolidated results were:

	Years ended December 31,		
	2023	2022	2021
Percent of consolidated net sales [1]	**14 %**	14 %	15 %
Percent of consolidated EBITDA [1]	**16 %**	15 %	14 %

[1] Measured before intersegment eliminations

The Power Systems segment is organized around the following product lines:

- **Power generation -** We are a global OEM offering standby and prime power generators ranging from 2 kilowatts to 3.5 megawatts, as well as controls, paralleling systems and transfer switches, for customers with consumer, commercial, industrial, data center, health care, prime rental fleet and defense applications. We also provide turnkey solutions for distributed generation and energy management applications using natural gas, diesel and newer alternative sustainable fuels such as hydrotreated vegetable oil and renewable natural gas.

- **Industrial -** We design, manufacture, sell and support diesel and natural gas high-speed, high-horsepower engines up to 4,400 horsepower for a wide variety of equipment in mining, rail, defense, oil and gas and marine applications throughout the world.

- **Generator technologies -** We design, manufacture, sell and support A/C generator/alternator products for internal consumption and for external generator set assemblers. Our products are sold under the Stamford and AVK brands and range in output from 7.5 kilovolt-amperes (kVA) to 11,200 kVA.

Our customer base for Power Systems offerings is highly diversified, with customer groups varying based on their power needs. China, India, Europe, Asia Pacific, Latin America, the Middle East and Africa are our largest geographic markets outside of North America.

In the markets served by the Power Systems segment, we compete with a variety of independent engine manufacturers and generator set assemblers as well as OEMs who manufacture engines for their own products around the world. Our primary competitors are Caterpillar, Inc., MTU (Rolls Royce Power Systems Group) and Kohler/SDMO (Kohler Group), but we also compete with INNIO, Generac, Mitsubishi Heavy Industries and numerous regional generator set assemblers. Our alternator business competes globally with Leroy Somer, Marathon Electric and Meccalte, among others.

Accelera Segment

The Accelera segment designs, manufactures, sells and supports hydrogen production technologies as well as electrified power systems with innovative components and subsystems, including battery, fuel cell and electric powertrain technologies. The Accelera segment is currently in the early stages of commercializing these technologies with efforts primarily focused on the development of our electrolyzers for hydrogen production and electrified power systems and related components and subsystems.

We anticipate our customer base for Accelera offerings will be highly diversified, representing multiple end markets with a broad range of application requirements. This includes new markets, like the growing green hydrogen market, which we serve with our leading hydrogen production technologies. We will continue to pursue relationships in markets as they adopt hydrogen and electric solutions.

In the markets served by the Accelera segment, we compete with emerging fuel cell and battery companies, powertrain component manufacturers, vertically integrated OEMs and entities providing hydrogen production solutions. Our primary competitors include Daimler, PACCAR, Volvo, Traton, BYD Company Limited, Dana Incorporated, BorgWarner Inc., Ballard Power Systems, Inc., Nel ASA, ITM Power, Siemens Energy, Thyssenkrupp and Plug Power Inc.

JOINT VENTURES, ALLIANCES AND NON-WHOLLY-OWNED SUBSIDIARIES

We entered into a number of joint venture agreements and alliances with business partners around the world. Our joint ventures are either distribution or manufacturing entities. We also own controlling interests in non-wholly-owned manufacturing and distribution subsidiaries.

In the event of a change of control of either party to certain of these joint ventures and other strategic alliances, certain consequences may result including automatic termination and liquidation of the venture, exercise of "put" or "call" rights of ownership by the non-acquired partner, termination or transfer of technology license rights to the non-acquired partner and increases in component transfer prices to the acquired partner. We will continue to evaluate joint venture and partnership opportunities in order to penetrate new markets, develop new products and generate manufacturing and operational efficiencies.

Financial information about our investments in joint ventures and alliances is incorporated by reference from NOTE 4, "INVESTMENTS IN EQUITY INVESTEES," to the Consolidated Financial Statements.

Our equity income from these investees was as follows:

In millions	Years ended December 31, 2023		2022		2021	
Manufacturing entities						
Dongfeng Cummins Engine Company, Ltd.	**$ 65**	**19 %**	$ 45	20 %	$ 82	19 %
Beijing Foton Cummins Engine Co., Ltd.	**47**	**14 %**	37	17 %	112	26 %
Chongqing Cummins Engine Company, Ltd.	**36**	**11 %**	32	14 %	39	9 %
Tata Cummins, Ltd.	**29**	**9 %**	27	12 %	18	4 %
All other manufacturers	**91**	**27 %**	28 [1]	12 %	131	32 %
Distribution entities						
Komatsu Cummins Chile, Ltda.	**55**	**16 %**	44	20 %	32	8 %
All other distributors	**16**	**4 %**	11	5 %	10	2 %
Cummins share of net income [2]	**$ 339**	**100 %**	$ 224	100 %	$ 424	100 %

[1] Includes a $28 million impairment of our joint venture with KAMAZ and $3 million of royalty charges as part of our costs associated with the indefinite suspension of our Russian operations. In addition, on February 7, 2022, we purchased Westport Fuel System Inc.'s stake in Cummins Westport, Inc. (Westport JV). See NOTE 24, "ACQUISITIONS," and NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

[2] This total represents our share of net income of our equity investees and is exclusive of royalties and interest income from our equity investees. To see how this amount reconciles to equity, royalty and interest income from investees in the Consolidated Statements of Net Income, see NOTE 4, "INVESTMENTS IN EQUITY INVESTEES," to our Consolidated Financial Statements for additional information.

Manufacturing Entities

Our manufacturing joint ventures were generally formed with customers and are primarily intended to allow us to increase our market penetration in geographic regions, reduce capital spending, streamline our supply chain management and develop technologies. Our largest manufacturing joint ventures are based in China and are included in the list below. Our engine manufacturing joint ventures are supplied by our Components segment in the same manner as it supplies our wholly-owned Engine segment and Power Systems segment manufacturing facilities. Our Components segment joint ventures and wholly-owned entities provide axles, drivelines, brakes and suspension systems for commercial diesel and natural gas applications, aftertreatment systems, turbochargers, fuel systems, filtration products, automated transmissions and electronics that are used with our engines as well as some competitors' products. The results and investments in our joint ventures in which we have 50 percent or less ownership interest (except for ECJV, which is consolidated due to our majority voting interest) discussed below are included in equity, royalty and interest income from investees and investments and advances related to equity method investees in our Consolidated Statements of Net Income and Consolidated Balance Sheets, respectively.

- **Dongfeng Cummins Engine Company, Ltd. -** Dongfeng Cummins Engine Company, Ltd. (DCEC) is a joint venture in China with Dongfeng Automotive Co. Ltd., a subsidiary of Dongfeng Motor Corporation and one of the largest medium-duty and heavy-duty truck manufacturers in China. DCEC produces 3.9 liter to 14.5 liter diesel engines with a power range from 80 to 760 horsepower, natural gas engines and automated transmissions. On-highway engines are used in multiple applications in light-duty and medium-duty trucks, special purpose vehicles, buses and heavy-duty trucks with a main market in China. Off-highway engines are used in a variety of construction, power generation, marine and agriculture markets in China.
- **Beijing Foton Cummins Engine Co., Ltd. -** Beijing Foton Cummins Engine Co., Ltd. is a joint venture in China with Beiqi Foton Motor Co., Ltd., a commercial vehicle manufacturer, which has two distinct lines of business - a light-duty business and a heavy-duty business. The light-duty business produces our families of ISF 2.5 liter to 4.5 liter high performance light-duty diesel engines in Beijing. These engines are used in light-duty and medium-duty commercial trucks, pick-up trucks, buses, multipurpose and sport utility vehicles with main markets in China and Brazil. Certain types of small construction equipment and industrial applications are also served by these engine families. The heavy-duty business produces 8.5 liter to 14.5 liter high performance heavy-duty diesel and natural gas engines in Beijing. Certain types of construction equipment and industrial applications are also served by these engine families.
- **Chongqing Cummins Engine Company, Ltd. -** Chongqing Cummins Engine Company, Ltd. is a joint venture in China with Chongqing Machinery and Electric Co. Ltd. This joint venture manufactures several models of our heavy-duty and high-horsepower diesel engines primarily serving the industrial and stationary power markets in China.
- **Tata Cummins, Ltd. -** Tata Cummins, Ltd. is a joint venture in India with Tata Motors Ltd., the largest automotive company in India and a member of the Tata group of companies. This joint venture manufactures Cummins' 3.8 to 8.9 liter diesel and natural gas engines in India with a power range from 75 to 400 horsepower for use in

trucks and buses manufactured by Tata Motors, as well as for various on-highway, industrial and power generation applications for Cummins.

In September 2023, our Accelera business signed an agreement to form a joint venture with Daimler Trucks and Buses US Holding LLC (Daimler Truck), PACCAR Inc. (PACCAR) and EVE Energy to accelerate and localize battery cell production and the battery supply chain in the U.S., including building a 21-gigawatt hour battery production facility in Marshall County, Mississippi. The joint venture will manufacture battery cells for electric commercial vehicles and industrial applications. Accelera, Daimler Truck and PACCAR will each own 30 percent of the joint venture, while EVE Energy will own 10 percent. Total investment by the partners is expected to be in the range of $2 billion to $3 billion for the 21-gigawatt hour facility. The transaction is subject to closing conditions and receipt of applicable merger control and regulatory approvals including submission of a voluntary notice to the Committee on Foreign Investment in the U.S.

Distribution Entity

Komatsu Cummins Chile, Ltda. - Komatsu Cummins Chile, Ltda. is a joint venture with Komatsu America Corporation. The joint venture is a distributor that offers the full range of our products and services to customers and end-users in Chile and Peru. See further discussion of our distribution network under the Distribution segment section above.

Non-Wholly-Owned Subsidiaries

- **Atmus Filtration Technologies Inc. (Atmus)** - We have a controlling interest in Atmus, which is a publicly listed company on the New York Stock Exchange (NYSE) and began trading on May 26, 2023. Atmus develops, designs, manufactures and sells filters, coolant and chemical products and offers products for first fit and aftermarket applications including air filter, fuel filters, fuel water separators, lube filters, hydraulic filters, coolants, fuel additives and other filtration systems to OEMs, dealers/ distributors and end-users.
- **Eaton Cummins Automated Transmission Technologies** - We have a majority voting interest in ECJV by virtue of a tie-breaking vote on the joint venture's board of directors. ECJV develops and supplies automated transmissions for the heavy-duty commercial vehicle markets in North America and China.
- **Cummins India Ltd. (CIL)** - We have a controlling interest in Cummins India Ltd. (CIL), which is a publicly listed company on various stock exchanges in India. CIL produces medium-duty, heavy-duty and high-horsepower diesel engines and generators for the Indian and export markets and natural gas spark-ignited engines for power generation, automotive and industrial applications. CIL also has distribution and power generation operations.

SUPPLY

The performance of the end-to-end supply chain, extending through to our suppliers, is foundational to our ability to meet customers' expectations and support long-term growth. We are committed to having a robust strategy for how we select and manage our suppliers to enable a market focused supply chain. This requires us to continuously evaluate and upgrade our supply base, as necessary, as we strive to ensure we are meeting the needs of our customers.

We use a combination of proactive and reactive methodologies to enhance our understanding of supply base risks, which guide the development of risk monitoring and sourcing strategies. Our category strategy process supports the review of our long-term needs and guides decisions on what we make internally and what we purchase externally. For externally purchased items, the strategies also identify the suppliers we should consider for long-term supply agreements to provide the best technology, the lowest total cost and highest supply chain performance. We design and/or manufacture our strategic components used in or with our engines, power generation units and Accelera products. Key suppliers are managed through long-term supply agreements that seek to secure capacity, delivery and quality and to assure cost requirements are met over an extended period.

Other important elements of our sourcing strategy include the following:

- expanding risk management scope to include sub-tier value chain suppliers for critical components;
- broadening dual and multi-sourcing where applicable;
- selecting and managing suppliers to comply with our Supplier Code of Conduct; and
- assuring our suppliers comply with our prohibited and restricted materials policy.

We made significant progress in restoring and maintaining continuity of our supply chains in 2023; however, disruption risk in certain categories of our supply chains still exist and could negatively impact our ability to meet customer demand. We continue to monitor the supply chain disruptions utilizing early detection methods complemented by structured supplier risk and resiliency assessments. We increased frequency of formal and informal supplier engagement to address potentially impactful supply base constraints and enhanced collaboration to develop specific countermeasures to mitigate risks.

PATENTS AND TRADEMARKS

We own or control a significant number of patents and trademarks relating to the products we manufacture. These patents and trademarks were granted and registered over a period of years. Although these patents and trademarks are generally considered beneficial to our operations, we do not believe any patent, group of patents or trademark (other than our leading brand house trademarks) is significant to our business.

SEASONALITY

While individual product lines may experience modest seasonal variation in production, there is no material effect on the demand for the majority of our products on a quarterly basis.

LARGEST CUSTOMERS

We have thousands of customers around the world and have developed long-standing business relationships with many of them. PACCAR is our largest customer, accounting for 16 percent of our consolidated net sales in 2023, 16 percent in 2022 and 15 percent in 2021. We have long-term supply agreements with PACCAR for our heavy-duty and medium-duty engines and aftertreatment systems. While a significant number of our sales to PACCAR are under long-term supply agreements, these agreements provide for particular engine requirements for specific vehicle models and not a specific volume of engines or aftertreatment systems. PACCAR is our only customer accounting for more than 10 percent of our net sales in 2023. The loss of this customer or a significant decline in the production level of PACCAR vehicles that use our engines would have an adverse effect on our results of operations and financial condition. We have supplied engines to PACCAR for 79 years. A summary of principal customers for each operating segment is included in our segment discussion.

In addition to our agreement with PACCAR, we have long-term heavy-duty and medium-duty engine and aftertreatment system supply agreements with Traton and Daimler. We also have an agreement with Stellantis to supply engines for its pick-up truck applications. Collectively, our net sales to these four customers, including PACCAR, were 37 percent of our consolidated net sales in 2023, 36 percent in 2022 and 33 percent in 2021. Excluding PACCAR, net sales to any single customer were less than 9 percent of our consolidated net sales in 2023, less than 8 percent in 2022 and less than 8 percent in 2021. These agreements contain standard purchase and sale agreement terms covering engine, aftertreatment and engine parts pricing, quality and delivery commitments, as well as engineering product support obligations. The basic nature of our agreements with OEM customers is that they are long-term price and operations agreements that help provide for the availability of our products to each customer through the duration of the respective agreements. Agreements with most OEMs contain bilateral termination provisions giving either party the right to terminate in the event of a material breach, change of control or insolvency or bankruptcy of the other party.

BACKLOG

We made significant progress in restoring and maintaining continuity of our supply chains in 2023; however, disruption risk in certain categories of our supply chains still exist and could negatively impact our ability to meet customer demand. We have supply agreements with some truck and off-highway equipment OEMs and firm orders from data center and electrolyzer customers, however a large portion of our business is transacted through open purchase orders. Many of these open orders are historically subject to month-to-month releases and are subject to cancellation on reasonable notice without cancellation charges and therefore are not considered firm. We continue to work closely with our suppliers and customers to meet the demand.

RESEARCH AND DEVELOPMENT

In 2023, we continued to invest in future critical technologies and products. We will continue to make investments to develop new products and improve our current technologies to meet future emission standards around the world, improvements in fuel economy performance of diesel and natural gas-powered engines and related components, as well as development activities around hydrogen engine solutions, battery electric, fuel cell electric and hydrogen production technologies.

Our research and development programs are focused on product improvements, product extensions, innovations and cost reductions for our customers. Research and development expenditures include salaries, contractor fees, building costs, utilities, testing, technical information technology expenses, administrative expenses and allocation of corporate costs and are expensed, net of contract reimbursements, when incurred. From time to time, we enter into agreements with customers and government agencies to fund a portion of the research and development costs of a particular project. When not associated with a sales contract, we generally account for these reimbursements as an offset to the related research and development expenditure. Research and development expenses, net of contract reimbursements, were $1.4 billion in 2023, $1.2 billion in 2022 and $1.1 billion in 2021. Contract reimbursements were $81 million, $110 million and $104 million in 2023, 2022 and 2021, respectively.

ENVIRONMENTAL SUSTAINABILITY

We are committed to making people's lives better by powering a more prosperous world. That prosperity includes strong communities, robust business and environmental sustainability.

The highest level of accountability for our climate-related risks and opportunities is with the Safety, Environment and Technology (SET) Committee of the Board of Directors (the Board). The internal Action Committee for Environmental Sustainability meets monthly and reports to the Chief Executive Officer (CEO) and to the SET Committee at least annually.

In 2019, we introduced PLANET 2050, a sustainability strategy focused on three priority areas: addressing climate change and air emissions, using natural resources in the most sustainable way and improving communities. Additional commitments followed including Cummins Water Works, our program for strengthening communities through sustainable water and addressing the global water crisis, and Destination Zero, our long-term product decarbonization strategy.

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The PLANET 2050 strategy includes nine specific goals to achieve by 2030, including science-based greenhouse gas (GHG) reduction targets for newly sold products and facilities, as well as aspirational targets for 2050. We started reporting progress on these nine goals, most of which have a baseline year of 2018, in 2022. Key actions in 2023 included increasing planned capital spending to meet the 2030 facility reduction goals for GHG emissions, water and waste; improving GHG measurement and modeling for product emissions; and identifying technology portfolio opportunities toward progress of product GHG reduction. In 2023, we also released our formal Environmental Justice and Prosperity Policy reflecting our commitment to prosperity with less impact on the planet and its people.

The nine PLANET 2050 goals for 2030 are as follows:

- Reduce absolute GHG emissions from facilities and operations by 50 percent.
- Reduce scope three absolute lifetime GHG emissions from newly sold products by 25 percent.
- Partner with customers to reduce scope three GHG emissions from products in the field by 55 million metric tons.
- Reduce volatile organic compounds emissions from paint and coating operations by 50 percent.
- Create a circular lifecycle plan for every part to use less, use better, use again.
- Generate 25 percent less waste in facilities and operations as percent of revenue.
- Reuse or responsibly recycle 100 percent of packaging plastics and eliminate single-use plastics in dining facilities, employee amenities and events.
- Reduce absolute water consumption in facilities and operations by 30 percent.
- Produce net water benefits that exceed our annual water use in all our regions.

The most recent Sustainability Progress Report, prior reports and a Data Book of more detailed environmental data in accordance with the Global Reporting Initiative's Standard core compliance designation is available on our website at www.cummins.com. Our annual submission to the Carbon Disclosure Project (CDP) for climate change and water are also available on the website. The climate submission provides information on our scenario planning for climate and other risks and detailed facility emissions data as requested by CDP. We also published reports in accordance with the Sustainability Accounting Standards Board as well as the framework of the Task Force on Climate-Related Financial Disclosures. These reports and data book are not incorporated into this Form 10-K by reference.

We continue to articulate our positions on key public policy issues and on a wide range of environmental issues. We are actively engaged around the world to promote science-based climate policies by working with regulatory, industry and other stakeholders, including joining advocacy groups and testifying before legislators and regulators. We will continue to work in partnership with others to advocate for tough, clear and enforceable regulations around the globe to address air and GHG emissions.

ENVIRONMENTAL COMPLIANCE

Agreement in Principle

In December 2023, we announced that we reached an agreement in principle with the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the Environmental and Natural Resources Division of the U.S. Department of Justice (DOJ) and the California Attorney General's Office (CA AG) to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S. (collectively, the Agreement in Principle). As part of the Agreement in Principle, among other things, we agreed to pay civil penalties, complete recall requirements, undertake mitigation projects, provide extended warranties, undertake certain testing, take certain corporate compliance measures and make certain payments. Failure to comply with the terms and conditions of the Agreement in Principle will subject us to further stipulated penalties. We recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. This charge was in addition to the previously announced charges of $59 million for the recalls of model years 2013 through 2018 RAM 2500 and 3500 trucks and model years 2016 through 2019 Titan trucks. The Agreement in Principle remains subject to final regulatory and judicial approvals.

We have also been in communication with other non-U.S. regulators regarding matters related to the emission systems in our engines and may also become subject to additional regulatory review in connection with these matters.

In connection with our announcement of our entry into the Agreement in Principle, we have become subject to shareholder, consumer and third-party litigation regarding the matters covered by the Agreement in Principle and we may become subject to additional litigation in connection with these matters. See NOTE 15, "COMMITMENTS AND CONTINGENCIES," to the Consolidated Financial Statements and the "LIQUIDITY AND CAPITAL RESOURCES" section within Management's Discussion and Analysis for additional information.

Product Certification and Compliance

Our products are subject to extensive statutory and regulatory requirements worldwide that directly or indirectly impose standards governing emissions and noise. Over the past several years, we have increased our global environmental compliance presence and expertise to understand and meet emerging product environmental regulations around the world. Our ability to comply with these and future emission standards is an essential element in maintaining our leadership position in regulated markets.

We strive to be a leader in developing and implementing technologies that provide customers with the highest performing products while minimizing the impact on the environment, and we have a long history of working with governments and regulators to achieve these goals. We remain committed to ensuring our products meet all current and future emission standards and delivering value to our customers.

Announced in late 2019 and launched in early 2020, the Product Compliance and Regulatory Affairs team leads both engine emissions certification and compliance and regulatory affairs initiatives and provides updates to the SET Committee of the Board at least annually. This organization is led by the Vice President - Product Compliance and Regulatory Affairs and reports directly to the Chief Administrative Officer and the CEO for product emissions matters. The focus of this organization is to strengthen our ability to design great products that help our customers win while complying with increasingly challenging global emission regulations. The organization also works to enhance our collaboration with the agencies setting the direction and regulations of emissions as we strive to meet every expectation today while planning for future changes.

Other Environmental Statutes and Regulations

Expenditures for environmental control activities and environmental remediation projects at our facilities in the U.S. were not a substantial portion of our annual expenses and are not expected to be material in 2024. We believe we are in compliance in all material respects with laws and regulations applicable to our plants and operations.

In the U.S., pursuant to notices received from federal and state agencies and/or defendant parties in site environmental contribution actions, we were identified as a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended or similar state laws, at fewer than 20 manufacturing and waste disposal sites.

Based upon our experiences at similar sites we believe that our aggregate future remediation costs will not be material. We have established accruals that we believe are adequate for our expected future liability with respect to these sites. In addition, we have several other sites where we are working with governmental authorities on remediation projects. The costs for these remediation projects are not expected to be material.

HUMAN CAPITAL RESOURCES

At December 31, 2023, we employed approximately 75,500 persons worldwide. Approximately 21,900 of our employees worldwide were represented by various unions under collective bargaining agreements that expire between 2024 and 2028.

Throughout our more than 100-year history, we always recognized that people drive the strength of our business and our ability to effectively serve our customers and sustain our competitive position. We are focused on harmonizing our approach to talent to provide seamless opportunities and better experiences to our employees around the world. Our workforce strategy cultivates an environment where all employees, regardless of employee type and location, know what is expected of them, are rewarded based on performance and have access to differentiated experiences, tools and leadership coaching to help them develop. This strategy has several key focus areas: creating a diverse, accessible, equitable and inclusive work environment; engaging employees and their families in improving wellness; developing self-aware and effective leaders and extending our talent development programs to our workforce at every level.

Leadership and Talent Development

Developing our human capital resources is a key focus of the company. The Board continues its commitment to overseeing and providing guidance to our leadership team since recasting our former Compensation Committee in 2020 to currently the Talent Management Compensation Committee.

We strive to create a leadership culture that begins with authentic leaders who create an outstanding place to work by encouraging all employees to achieve their full potential. We encourage leaders to connect our people and their work to our mission, vision, values, brand promise and strategies of the company, motivating and giving them a higher sense of purpose. We have designed leadership and talent development programs for employees ranging from the manufacturing floor and technicians through middle management and executives. We are committed to cultivating a learning culture by providing employees and their managers with the tools and resources to have meaningful conversations, envision and plan their career, thrive in their work and navigate in a large global organization. Through our talent strategy, our goal is to provide all employees equitable access to the development and career opportunities that a global company enables.

Competitive Pay and Benefits

To attract and retain the best employees, we focus on providing progressive, competitive pay and benefits. Our programs target the market for competitiveness and sustainability while ensuring that we honor our core values. We provide benefit programs with the goal of improving the physical, emotional, social and financial wellness of our employees throughout their lifetime. Some examples include base and variable pay, medical, paid time off, retirement saving plans and employee stock purchase plans.

When designing our base pay ranges, we conduct market analyses to ensure our ranges are competitive and our employees are advancing their earning potential. We also perform annual compensation studies to assess market movement, pay equity and living wages. We review wages globally as we continuously work to ensure we are fair, equitable, competitive and can attract and retain the best talent.

We also provide diverse benefit programs that are aligned with our values and focused on supporting employees and their families based on their unique needs, some of which include the following: healthcare plans that offer lower out-of-pocket costs and higher employer-paid Health Savings Account contributions to lower wage earners; paid parental leave for primary and secondary caregivers; travel benefits and advanced medical services to support complex health care needs; global employee assistance programs with diverse providers; and a global mental health program, all designed to meet employee needs from race-related trauma to financial planning to transgender transition support and more.

Employee Safety and Wellness

Cummins is committed to being world-class in health and safety. We strive to ensure a hazard-free workplace with zero incidents. We are committed to removing conditions that cause personal injury or occupational illness and we make decisions and promote behaviors that protect others from risk of injury. We publicly disclose metrics on our rate of recordable injuries, our rate of lost workdays due to injury, rate of ergonomic injuries and rate of potentially serious injuries and fatalities.

Since 2020, we have taken many steps in the employee safety and wellness area including the following:

- Executed robust safety protocols for essential on-site personnel.
- Implemented a remote work environment where possible for employees who prefer working off-site, including remote ergonomic evaluations and support.
- Provided high-quality clinical services at onsite and near-site medical clinics at 36 key locations across the globe to support employee health and well-being.
- Launched a global mental health campaign to destigmatize and normalize discussions about mental health, promote mental well-being, encourage employees and their families to seek help when needed and promote company-provided resources.

Diversity, Equity and Inclusion

At Cummins, we leverage the strength of our diverse, global workforce to drive innovation and deliver superior solutions for our customers and communities. We do this through our commitment to fostering an accountable culture that champions our vision of a workforce mirroring the diversity of the communities we serve. This commitment starts at the top with our Board and permeates throughout our organization as everyone plays a role in nurturing inclusive environments where all employees can reach their full potential and thrive. This is exemplified by the composition of the Board and Cummins Leadership Team. As of January 31, 2024, five of twelve Board members are women and three are ethnically diverse. Under the guidance of our female Chair and CEO, the thirteen member Cummins Leadership Team includes five women and three Black members. Moreover, within our five business segments, four are led by women.

Our CEO’s strong focus on cultivating an inclusive culture underscores our belief that diversity is a powerful asset in maintaining our competitive edge. It is the responsibility of all employees to contribute to and advance our diversity, equity and inclusion (DE&I) initiatives. They are supported by our more than 150 employee resources groups around the world that provide opportunities for cross-cultural learning and professional development, and trainings such as one launched in 2023 focused on creating inclusion and belonging on teams by building awareness around different lived experiences.

DE&I is also integral to the way we conduct ourselves as a corporate citizen. Building upon the success of our employee-led Cummins Advocating for Racial Equity, which seeks to dismantle institutional racism and foster systemic equity, we announced an expansion of the program to select Latino communities in the U.S. in the fall of 2023.

For more information on the topics above and our management of our human capital resources, please go to sustainability.cummins.com. Information from our sustainability report and sustainability webpage is not incorporated by reference into this filing.

AVAILABLE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information electronically with the Securities and Exchange Commission (SEC). The SEC maintains an internet site that contains annual, quarterly and current reports, proxy and information statements and other information that Cummins files electronically with the SEC. The SEC's internet site is www.sec.gov.

Our internet site is www.cummins.com. You can access our Investors and Media webpage through our internet site, by hovering on the heading "Company" and selecting "Investor Relations" link under the "About Us" section. We make available, free of charge, on or through our Investors and Media webpage, our proxy statements, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to the Securities Exchange Act of 1934 or the Securities Act of 1933, as amended, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

We also have a Corporate Governance webpage. You can access our Governance Documents webpage through our internet site, www.cummins.com, by hovering on the heading "Company" and selecting "Investor Relations" link under the "About Us" section. Next, click on the heading "Board & ESG" and select "Governance Documents" from the drop-down menu. Code of Conduct, Committee Charters and other governance documents are included at this site. Our Code of Conduct applies to all employees, regardless of their position or the country in which they work. It also applies to the employees of any entity owned or controlled by us. We will post any amendments to the Code of Conduct and any waivers that are required to be disclosed by the rules of either the SEC or the NYSE, on our internet site. The information on our internet site is not incorporated by reference into this report.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Following are the names and ages of our executive officers, their positions with us at January 31, 2024, and summaries of their backgrounds and business experience:

Name and Age	Present Cummins Inc. position and year appointed to position	Principal position during the past five years other than Cummins Inc. position currently held
Jennifer Rumsey (50)	Chair and Chief Executive Officer (2023)	President and Chief Executive Officer (2022-2023) President and Chief Operating Officer (2021-2022) Vice President and President—Components (2019-2020) Vice President—Chief Technical Officer (2015-2019)
Sharon R. Barner (66)	Vice President—Chief Administrative Officer (2021)	Vice President—Chief Administrative Officer and Corporate Secretary (2021-2023) Vice President—General Counsel and Corporate Secretary (2020-2021) Vice President—General Counsel (2012-2020)
Marvin Boakye (50)	Vice President—Chief Human Resources Officer (2022)	Chief People and Diversity Officer—Papa John's International (2019-2022) Chief People Officer—Papa John's International (2019) Vice President, Human Resources—Andeavor (2017-2019)
Jenny M. Bush (49)	Vice President and President—Power Systems (2022)	Vice President—Cummins Sales & Service North America (2017-2022)
Amy R. Davis (54)	Vice President and President—Accelera and Components (2023)	Vice President and President—Accelera (2020-2023) Vice President—Cummins Filtration (2018-2020)
Bonnie Fetch (53)	Vice President and President—Distribution Business (2024)	Vice President—Global Supply Chain and Manufacturing (2022-2023) Vice President—DBU Supply Chain Services (2020-2022) Executive Director, Supply Chain—DBU (2018-2020)
Nicole Y. Lamb-Hale (57)	Vice President—Chief Legal Officer and Corporate Secretary (2023)	Vice President—Chief Legal Officer (2022-2023) Vice President—General Counsel (2021-2022) Managing Director and Washington, DC City Leader—Kroll (2020-2021) Managing Director—Kroll (2016-2020)
Brett Merritt (47)	Vice President and President—Engine Business (2024)	Vice President—On-Highway Engine Business and Vice President of Strategic Customer Relations (2023) Vice President—On-Highway Engine Business (2017-2023)
Srikanth Padmanabhan (59)	Executive Vice President and President—Operations (2024)	Vice President and President—Engine Business (2016-2023)
Livingston L. Satterthwaite (63)	Senior Vice President (2022)	Senior Vice President & Interim President—Distribution Business (2023)

Our Chair and CEO is elected annually by the Board and holds office until the meeting of the Board at which her election is next considered. Other officers are appointed by the Chair and CEO, are ratified by the Board and hold office for such period as the Chair and CEO or the Board may prescribe.

ITEM 1A. Risk Factors

Set forth below and elsewhere in this Annual Report on Form 10-K are some of the principal risks and uncertainties that could cause our actual business results to differ materially from any forward-looking statements contained in this Report and could individually, or in combination, have a material adverse effect on our results of operations, financial position and cash flows. These risk factors should be considered in addition to our cautionary comments concerning forward-looking statements in this Report, including statements related to markets for our products and trends in our business that involve a number of risks and uncertainties. Our separate section above, "CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING INFORMATION," should be considered in addition to the following statements.

GOVERNMENT REGULATION

While we have reached the Agreement in Principle with the EPA, CARB, DOJ and CA AG to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S. and recorded a charge of $2.036 billion in the fourth quarter of 2023 in connection with the Agreement in Principle, the Agreement in Principle remains subject to final regulatory and judicial approvals. In addition, we have incurred, and likely will incur, other additional claims, costs and expenses in connection with the matters covered by the Agreement in Principle and other matters related to our compliance with emission standards for our engines, including with respect to additional regulatory action and collateral litigation related to these matters. Those and related expenses and reputational damage could have a material adverse impact on our results of operations, financial condition and cash flows.

In December 2023, we announced that we reached the Agreement in Principle and recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. This charge was in addition to the previously announced charges of $59 million for the recalls of model years 2013 through 2018 RAM 2500 and 3500 trucks and model years 2016 through 2019 Titan trucks. Failure to comply with the terms and conditions of the Agreement in Principle will also subject us to further stipulated penalties. The Agreement in Principle remains subject to final regulatory and judicial approvals, and we cannot be certain that the Agreement in Principle will be approved, in its current form, or at all.

We have also been in communication with other non-U.S. regulators regarding matters related to the emission systems in our engines and may also become subject to additional regulatory review in connection with these matters.

In connection with our announcement of our entry into the Agreement in Principle, we have become subject to shareholder, consumer and third-party litigation regarding the matters covered by the Agreement in Principle and we may become subject to additional litigation in connection with these matters.

The consequences resulting from the resolution of the foregoing matters are uncertain and the related expenses and reputational damage could have a material adverse impact on our results of operations, financial condition and cash flows. See NOTE 15, "COMMITMENTS AND CONTINGENCIES," to the Consolidated Financial Statements for additional information.

Our products are subject to extensive statutory and regulatory requirements that can significantly increase our costs and, along with increased scrutiny from regulatory agencies and unpredictability in the adoption, implementation and enforcement of increasingly stringent and fragmented emission standards by multiple jurisdictions around the world, could have a material adverse impact on our results of operations, financial condition and cash flows.

Our engines are subject to extensive statutory and regulatory requirements governing emissions and noise, including standards imposed by the EPA, the EU, state regulatory agencies (such as the CARB) and other regulatory agencies around the world. Regulatory agencies are making certification and compliance with emissions and noise standards more stringent and subjecting diesel engine products to an increasing level of scrutiny. In addition, failure to comply with the terms and conditions of the Agreement in Principle will subject us to stipulated penalties. The discovery of noncompliance issues could have a material adverse impact on our results of operations, financial condition and cash flows.

Developing engines and components to meet more stringent and changing regulatory requirements, with different implementation timelines and emission requirements, makes developing engines efficiently for multiple markets complicated and could result in substantial additional costs that may be difficult to recover in certain markets. While we have met previous deadlines, our ability to comply with existing and future regulatory standards will be essential for us to maintain our competitive position in the engine applications and industries we serve. The successful development and introduction of new and enhanced products in order to comply with new regulatory requirements are subject to other risks, such as delays in product development, cost over-runs and unanticipated technical and manufacturing difficulties.

In addition to these risks, the nature and timing of government implementation and enforcement of increasingly stringent emission standards in our worldwide markets are unpredictable and subject to change. Any delays in implementation or enforcement could result in a loss of our competitive advantage and could have a material adverse impact on our results of operations, financial condition and cash flows.

Evolving environmental and climate change legislation and regulatory initiatives may adversely impact our operations, could impact the competitive landscape within our markets and could negatively affect demand for our products.

Our operations are subject to increasingly stringent environmental laws and regulations in all of the countries in which we operate, including laws and regulations governing air emission, carbon content, discharges to water and the generation, handling, storage, transportation, treatment and disposal of waste materials. For example, in October 2023, the EPA published a final rule imposing reporting and recordkeeping requirements on manufacturers and importers of per- and polyfluoroalkyl substances (PFAS). While we believe that we are in compliance in all material respects with these environmental laws and regulations, there can be no assurance that we will not be adversely impacted by costs, liabilities or claims with respect to existing or subsequently acquired operations, under either present laws and regulations or those that may be adopted or imposed in the future. We are also subject to laws requiring the cleanup of contaminated property. If a release of hazardous substances occurs at or from any of our current or former properties or at a landfill or another location where we have disposed of hazardous materials, we may be held liable for the contamination and the amount of such liability could be material. We may become subject to additional evolving regulations related to the cleanup of contaminated property, such as the EPA's proposal to designate two widely used PFAS as hazardous substances.

Concern over climate change has resulted in, and could continue to result in, new legal or regulatory requirements designed to reduce or mitigate the effects of GHG emissions. We may become subject to further additional legislation, regulations or accords regarding climate change, and compliance with new rules could be difficult and costly, including increased capital expenditures. Our failure to successfully comply with any such legislation, regulation or accord could also impact our ability to compete in our markets and decrease demand for our products.

We operate our business on a global basis and changes in international, national and regional trade laws, regulations and policies affecting and/or restricting international trade could adversely impact the demand for our products and our competitive position.

We manufacture, sell and service products globally and rely upon a global supply chain to deliver the raw materials, components, systems and parts that we need to manufacture and service our products. Changes in laws, regulations and government policies on foreign trade and investment can affect the demand for our products and services, cause non-U.S. customers to shift preferences toward domestically manufactured or branded products and impact the competitive position of our products or prevent us from being able to sell products in certain countries. Our business benefits from free trade agreements, such as the United States-Mexico-Canada Agreement and the U.S. trade relationship with China, Brazil and France and efforts to withdraw from, or substantially modify such agreements or arrangements, in addition to the implementation of more restrictive trade policies, such as more detailed inspections, higher tariffs (including, but not limited to, additional tariffs on the import of steel or aluminum and imposition of new or retaliatory tariffs against certain countries, including based on developments in U.S. and China relations), import or export licensing requirements and exchange controls or new barriers to entry, could limit our ability to capitalize on current and future growth opportunities in international markets, impair our ability to expand the business by offering new technologies, products and services, and could adversely impact our production costs, customer demand and our relationships with customers and suppliers. Any of these consequences could have a material adverse effect on our results of operations, financial condition and cash flows.

Embargoes, sanctions and export controls imposed by the U.S. and other governments restricting or prohibiting transactions with certain persons or entities, including financial institutions, to certain countries or regions, or involving certain products, limit the sales of our products. Embargoes, sanctions and export control laws are changing rapidly for certain geographies, including with respect to China. In particular, changing U.S. export controls and sanctions on China, as well as other restrictions affecting transactions involving China and Chinese parties, could affect our ability to collect receivables, access cash generated in China, provide aftermarket and warranty support for our products, sell products and otherwise impact our reputation and business, any of which could have a material adverse effect on our results of operations, financial condition and cash flows.

Unanticipated changes in our effective tax rate, the adoption of new tax legislation or exposure to additional income tax liabilities could adversely affect our profitability.

We are subject to income taxes in the U.S. and numerous international jurisdictions. Our income tax provision and cash tax liability in the future could be adversely affected by the adoption of new tax legislation, changes in earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities and the discovery of new information in the course of our tax return preparation process. The carrying value of deferred tax assets, which are predominantly in the U.S., is dependent on our ability to generate future taxable income in the U.S. We are also subject to ongoing tax audits. These audits can involve complex issues, which may require an extended period of time to resolve and can be highly judgmental. Tax authorities may disagree with certain tax reporting positions taken by us and, as a result, assess additional taxes against us. We regularly assess the likely outcomes of these audits in order to determine the appropriateness of our tax provision. The amounts ultimately paid upon resolution of these or subsequent tax audits could be materially different from the amounts previously included in our income tax provision and, therefore, could have a material impact on our tax provision.

Our global operations are subject to laws and regulations that impose significant compliance costs and create reputational and legal risk.

Due to the international scope of our operations, we are subject to a complex system of commercial and trade regulations around the world. Recent years have seen an increase in the development and enforcement of laws regarding trade compliance and anti-corruption, such as the U.S. Foreign Corrupt Practices Act and similar laws from other countries, as well as new regulatory requirements regarding data privacy, such as the European Union General Data Protection Regulation. Our numerous foreign subsidiaries, affiliates and joint venture partners are governed by laws, rules and business practices that differ from those of the U.S. The activities of these entities may not comply with U.S. laws or business practices or our Code of Business Conduct. Violations of these laws may result in severe criminal or civil sanctions, could disrupt our business and result in an adverse effect on our reputation, business and results of operations, financial condition and cash flows. We cannot predict the nature, scope or effect of future regulatory requirements to which our operations might be subject or the manner in which existing laws might be administered or interpreted.

Future bans or limitations on the use of diesel-powered vehicles or other applications could have a material adverse impact on our business over the long term.

In an effort to limit GHG emissions and combat climate change, multiple countries and cities have announced that they plan to implement a ban on the use in their countries or cities of diesel-powered products in the near or distant future. These countries include China, India and Germany. In addition, California government officials have called for the state to phase out sales of certain diesel-powered vehicles by 2035. To the extent that these types of bans are actually implemented in the future on a broad basis, or in one or more of our key markets, our diesel business over the long-term could experience material adverse impacts.

BUSINESS CONDITIONS / DISRUPTIONS

We may fail to successfully integrate the acquisition of Meritor and / or fail to fully realize all of the anticipated benefits, including enhanced revenue, earnings and cash flow from our acquisition which could have a material adverse impact on our results of operations, financial condition and cash flows.

The acquisition of Meritor involves the integration of Meritor's operations with our existing operations, and there are uncertainties inherent in such an integration. We have, and will be continued to be required to, devote significant management attention and resources to integrating Meritor's operations. Our ability to fully realize all of the anticipated benefits, including enhanced revenue, earnings and cash flow, from our acquisition of Meritor will depend, in substantial part, on our ability to successfully integrate the products into our segments, launch the Meritor products around the world and achieve our projected sales goals. While we believe we will ultimately achieve these objectives, it is possible that we will be unable to achieve some or all of these objectives within our anticipated time frame or in the anticipated amounts. If we are not able to successfully complete the integration of the Meritor business or implement our Meritor strategy, we may not fully realize the anticipated benefits, including enhanced revenue, earnings and cash flows, from this acquisition or such anticipated benefits may take longer to realize than expected. As part of the purchase accounting associated with the acquisition, significant goodwill and intangible asset balances were recorded on the consolidated balance sheet. If cash flows from the acquisition fall short of our anticipated amounts, these assets could be subject to non-cash impairment charges, negatively impacting our earnings. Failure to successfully integrate Meritor and / or realize the anticipated benefits could have a material adverse impact on our results of operations, financial condition and cash flows.

We are vulnerable to raw material, transportation and labor price fluctuations and supply shortages, which impacted and could continue to impact our results of operations, financial condition and cash flows.

We are experiencing supply chain disruptions and related challenges throughout the supply chain. We single source a number of parts and raw materials critical to our business operations. Any delay in our suppliers' deliveries may adversely affect our operations at multiple manufacturing locations, forcing us to seek alternative supply sources to avoid serious disruptions. Delays may be caused by factors affecting our suppliers (including, but not limited to, raw material availability, capacity constraints, port congestion, labor disputes or unrest, shortages of labor, economic downturns, availability of credit, impaired financial condition, sanctions/tariffs, pandemic restrictions, energy inflation/availability, suppliers' allocations to other purchasers, weather emergencies, natural disasters, acts of government or acts of war or terrorism). The effects of climate change, including extreme weather events, long-term changes in temperature levels and water availability may exacerbate these risks. Any extended delay in receiving critical supplies could impair our ability to deliver products to our customers and have a material adverse effect on our results of operations, financial condition and cash flows.

In addition, the current economic environment has resulted, and may continue to result, in price volatility and increased levels of inflation of many of our raw material, transportation and other costs. In particular, increased levels of inflation, rising interest rates and concerns regarding a potential economic recession may result in increased operating costs and/or decreased levels of profitability. Further, the labor market for skilled manufacturing remains tight, and our labor costs have increased as a result. Material, transportation, labor and other cost inflation has impacted and could continue to impact our results of operations, financial condition and cash flows.

We face the challenge of accurately aligning our capacity with our demand.

Our markets are cyclical in nature and we face periods when demand fluctuates significantly higher or lower than our normal operating levels, including variability driven by supply chain inconsistency. Accurately forecasting our expected volumes and appropriately adjusting our capacity are important factors in determining our results of operations and cash flows. We manage our capacity by adjusting our manufacturing workforce, capital expenditures and purchases from suppliers. In periods of weak demand, we may face under-utilized capacity and un-recovered overhead costs, while in periods of strong demand we may experience unplanned costs and could fail to meet customer demand. We cannot guarantee that we will be able to adequately adjust our manufacturing capacity in response to significant changes in customer demand, which could harm our business. If we do not accurately align our manufacturing capabilities with demand it could have a material adverse effect on our results of operations, financial condition and cash flows.

We derive significant earnings from investees that we do not directly control, with more than 50 percent of these earnings from our China-based investees.

For 2023, we recognized $483 million of equity, royalty and interest income from investees, compared to $349 million in 2022. Approximately one third of our equity, royalty and interest income from investees is from three of our 50 percent owned joint ventures in China - Beijing Foton Cummins Engine Co., Ltd., Dongfeng Cummins Engine Company, Ltd. and Chongqing Cummins Engine Company, Ltd. Although a significant percentage of our net income is derived from these unconsolidated entities, we do not unilaterally control their management or their operations, which puts a substantial portion of our net income at risk from the actions or inactions of these entities. A significant reduction in the level of contribution by these entities to our net income would likely have a material adverse effect on our results of operations and cash flows.

Our truck manufacturers and OEM customers discontinuing outsourcing their engine supply needs, experiencing financial distress or experiencing a change-in-control of one of our large truck OEM customers, could have a material adverse impact on our results of operations, financial condition and cash flows.

We recognize significant sales of engines and components to a few large on-highway truck OEM customers which have been an integral part of our positive business results for several years. Many are truck manufacturers or OEMs that manufacture engines for some of their own vehicles. Despite their own engine manufacturing abilities, these customers have historically chosen to outsource certain types of engine production to us due to the quality of our engine products, our emission compliance capabilities, our systems integration, their customers' preferences, their desire for cost reductions, their desire for eliminating production risks and their desire to maintain company focus. However, there can be no assurance that these customers will continue to outsource, or outsource as much of, their engine production in the future. In addition, increased levels of OEM vertical integration could result from a number of factors, such as shifts in our customers' business strategies, acquisition by a customer of another engine manufacturer, the inability of third-party suppliers to meet product specifications and the emergence of low-cost production opportunities in foreign countries. Any significant reduction in the level of engine production outsourcing from our truck manufacturer or OEM customers, financial distress of one of our large truck OEM customers due to a change-in-control, could likely lead to significant reductions in our sales volumes, commercial disputes, receivable collection issues, and other negative consequences that could have a material adverse impact on our results of operations, financial condition and cash flows.

PRODUCTS AND TECHNOLOGY

Our products are subject to recall for performance or safety-related issues.

Our products are subject to recall for performance or safety-related issues. Product recalls subject us to reputational risk, loss of current and future customers, reduced revenue and product recall costs. Product recall costs are incurred when we decide, either voluntarily or involuntarily, to recall a product through a formal campaign to solicit the return of specific products due to known or suspected performance or safety issues. Any significant product recalls could have material adverse effects on our results of operations, financial condition and cash flows. See NOTE 14, "PRODUCT WARRANTY LIABILITY" to the Consolidated Financial Statements for additional information.

Our products are exposed to variability in material and commodity costs.

Our businesses establish prices with our customers in accordance with contractual time frames; however, the timing of material and commodity market price increases may prevent us from passing these additional costs on to our customers through timely pricing actions. Additionally, higher material and commodity costs around the world as well as elevated levels of inflation may offset our efforts to reduce our cost structure. While we customarily enter into financial transactions and contractual pricing adjustment provisions with our customers that attempt to address some of these risks, there can be no assurance that commodity price fluctuations will not adversely affect our results of operations and cash flows. While the use of commodity price hedging instruments and contractual pricing adjustments may provide us with some protection from adverse fluctuations in commodity prices, by utilizing these instruments, we potentially forego the benefits that might result from favorable fluctuations in price. As a result, higher material and commodity costs, could result in declining margins.

The development of new technologies may materially reduce the demand for our current products and services.

We are investing in new products and technologies, including electrified powertrains, hydrogen production and fuel cells, for planned introduction into certain new and existing markets. Given the early stages of development of some of these new products and technologies, there can be no guarantee of the future market acceptance and investment returns with respect to our planned products, which will face competition from an array of other technologies and manufacturers. The ongoing energy transition away from fossil fuels and the increased adoption of electrified powertrains in some market segments could result in lower demand for current diesel or natural gas engines and components and, over time, reduce the demand for related parts and service revenues from diesel or natural gas powertrains. Furthermore, it is possible that we may not be successful in developing segment-leading electrified or alternate fuel powertrains and some of our existing customers could choose to develop their own, or source from other manufacturers, and any of these factors could have a material adverse impact on our results of operations, financial condition and cash flows.

Lower-than-anticipated market acceptance of our new or existing products or services could have a material adverse impact on our results of operations, financial condition and cash flows.

Although we conduct market research before launching new or refreshed engines and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace. Offering engines and services that customers desire and value can mitigate the risks of increasing competition and declining demand, but products and services that are perceived to be less than desirable (whether in terms of price, quality, overall value, fuel efficiency or other attributes) can exacerbate these risks. With increased consumer interconnectedness through the internet, social media and other media, mere allegations relating to poor quality, safety, fuel efficiency, corporate responsibility or other key attributes can negatively impact our reputation or market acceptance of our products or services, even if such allegations prove to be inaccurate or unfounded.

Our business is exposed to potential product liability claims.

We face an inherent business risk of exposure to product liability claims in the event that our products' failure to perform to specification results, or is alleged to result, in property damage, bodily injury and/or death. At any given time, we are subject to various and multiple product liability claims, any one of which, if decided adversely to us, may have a material adverse effect on our reported results of operation in the period in which our liability with respect to any such claim is recognized. While we maintain insurance coverage with respect to certain product liability claims, we may not be able to obtain such insurance on acceptable terms in the future, if at all, and any such insurance may not provide adequate coverage against product liability claims. In addition, product liability claims can be expensive to defend and can divert the attention of management and other personnel for significant periods of time, regardless of the ultimate outcome. Furthermore, even if we are successful in defending against a claim relating to our products, claims of this nature could cause our customers to lose confidence in our products and us.

GENERAL

We may not realize the anticipated value or tax treatment for the anticipated full divestiture of our interest in Atmus Filtration Technologies Inc. (Atmus).

There are uncertainties and risks related to the timing and potential value to Cummins, Atmus and our respective shareholders of the planned divestiture of Atmus, including business, industry and market risks, as well as risks involving realizing the anticipated favorable tax treatment of the divestiture if there is a significant delay or failure to complete the divestiture. Failure to implement the divestiture effectively could result in a lower value to Cummins, Atmus and our respective shareholders.

A delay or failure to complete the divestiture could result in our businesses facing material challenges in connection with this transaction, including, without limitation:

- the diversion of management’s attention from ongoing business concerns and impact on our businesses as a result of the devotion of management’s attention to strategic alternatives for the Atmus divestiture;
- maintaining employee morale and retaining key management and other employees;
- retaining existing business and operational relationships, including with customers, suppliers, employees and other counterparties, and attracting new business and operational relationships; and

- foreseen and unforeseen dis-synergy costs, costs of restructuring transactions (including taxes) and other significant costs and expenses.

Any of these factors could have a material adverse effect on each of Cummins' and Atmus's respective business, financial condition, results of operations and cash flows. In addition, if the divestiture is completed, the new independent company will incur ongoing costs, including costs of operating as an independent company, that the divested business will no longer be able to share.

We may be adversely impacted by the effects of climate change and may incur increased costs and experience other impacts due to new or more stringent climate change regulations, accords, mitigation efforts, GHG regulations or other legislation designed to address climate change.

The scientific consensus indicates that emissions of GHG continue to alter the composition of Earth’s atmosphere in ways that are affecting, and are expected to continue to affect, the global climate. The potential impacts of climate change on our customers, product offerings, operations, facilities and suppliers are accelerating and uncertain, as they will be particular to local and customer-specific circumstances. These potential impacts may include, among other items, physical long-term changes in freshwater availability and the frequency and severity of weather events as well as customer product changes either through preference or regulation.

Concerns regarding climate change may lead to additional international, national, regional and local legislative and regulatory responses, accords and mitigation efforts. Various stakeholders, including legislators and regulators, shareholders and non-governmental organizations, are continuing to look for ways to reduce GHG emissions, and consumers are increasingly demanding products and services resulting in lower GHG emissions. We could face risks to our brand reputation, investor confidence and market share due to an inability to innovate and develop new products that decrease GHG emissions. Increased input costs, such as fuel, utility, transportation and compliance-related costs could increase our operating costs and negatively impact customer operations and demand for our products. As the impact of any additional future climate related legislative or regulatory requirements on our global businesses and products is dependent on the timing, scope and design of the mandates or standards, we are currently unable to predict its potential impact which could have a material adverse effect on our results of operations, financial condition and cash flows.

Climate change may exacerbate the frequency and intensity of natural disasters and adverse weather conditions, which may cause disruptions to our operations, including disrupting manufacturing, distribution and our supply chain.

Our plan to reposition our portfolio of product offerings through exploration of strategic acquisitions and divestitures may expose us to additional costs and risks.

Part of our strategic plan is to improve our revenue growth, gross margins and earnings by exploring the repositioning of our portfolio of product line offerings through the pursuit of potential strategic acquisitions and/or divestitures to provide future strategic, financial and operational benefits and improve shareholder value. There can be no assurance that we will be able to identify suitable candidates or consummate these transactions on favorable terms. The successful identification and completion of any strategic transaction depends on a number of factors that are not entirely within our control, including the availability of suitable candidates and our ability to negotiate terms acceptable to all parties involved, conclude satisfactory agreements and obtain all necessary regulatory approvals. Accordingly, we may not be able to successfully negotiate and complete specific transactions. The exploration, negotiation and consummation of strategic transactions may involve significant expenditures by us, which may adversely affect our results of operations at the time such expenses are incurred, and may divert management's attention from our existing business. Strategic transactions also may have adverse effects on our existing business relationships with suppliers and customers.

If required, the financing for strategic acquisitions could result in an increase in our indebtedness, dilute the interests of our shareholders or both. Any acquisition may not be accretive to us for a significant period of time following the completion of such acquisition. Also, our ability to effectively integrate any potential acquisition into our existing business and culture may not be successful, which could jeopardize future financial and operational performance for the combined businesses. In addition, if an acquisition results in any additional goodwill or increase in other intangible assets on our balance sheet and subsequently becomes impaired, we would be required to record a non-cash impairment charge, which could result in a material adverse effect on our financial condition.

Similarly, any strategic divestiture of a product line or business may reduce our revenue and earnings, reduce the diversity of our business, result in substantial costs and expenses and cause disruption to our employees, customers, vendors and communities in which we operate.

Our business and operations are subject to interest rate risks and changes in interest rates can reduce demand for our products and increase borrowing costs and result in non-cash charges

Rising interest rates could have a dampening effect on overall economic activity and/or the financial condition of our customers, either or both of which could negatively affect customer demand for our products and our customers' ability to repay obligations to us. Rising interest rates may increase our cost of capital which could have material adverse effects on our financial condition and cash flows. Rising interest rates could also impact certain goodwill assets requiring non-cash impairment charges which could have a material adverse impact on our earnings.

We operate in challenging markets for talent and may fail to attract, develop and retain key personnel.

We depend on the skills, institutional knowledge, working relationships, and continued services and contributions of key personnel, including our leadership team and others at all levels of the company, as a critical part of our human capital resources. In addition, our ability to achieve our operating and strategic goals depends on our ability to identify, hire, train and retain qualified individuals. We compete with other companies both within and outside of our industry for talented personnel in a highly competitive labor market, and we may lose key personnel or fail to attract other talented personnel. Any such loss or failure could have material adverse effects on our results of operations, financial condition and cash flows.

Our information technology environment and our products are exposed to potential security breaches or other disruptions which may adversely impact our competitive position, reputation, results of operations, financial condition and cash flows.

We rely on the capacity, reliability and security of our information technology environment and data security infrastructure in connection with various aspects of our business activities. We also rely on our ability to expand and continually update these technologies and related infrastructure in response to the changing needs of our business. As we implement new technologies, they may not perform as expected. We face the challenge of supporting our older technologies and implementing necessary upgrades. In addition, some of these technologies are managed by third-party service providers and are not under our direct control. If we experience a problem with an important technology, including during upgrades and/or new implementations of technologies, the resulting disruptions could have an adverse effect on our business and reputation. As customers adopt and rely on cloud-based digital technologies and services we offer, any disruption of the confidentiality, integrity or availability of those services could have an adverse effect on our business and reputation.

The data handled by our technologies is vulnerable to security threats. Our operations routinely involve receiving, storing, processing and transmitting sensitive information pertaining to our business, customers, dealers, suppliers, employees and other sensitive matters. As such, our information technology environment faces information technology security threats, such as security breaches, computer malware, ransomware attacks and other "cyber attacks," which are increasing in both frequency and sophistication, along with power outages or hardware failures. These threats could result in unauthorized public disclosures of information, create financial liability, subject us to legal or regulatory sanctions, disrupt our ability to conduct our business, result in the loss of intellectual property or damage our reputation with customers, dealers, suppliers and other stakeholders. As the result of changing market conditions, a large percentage of our salaried employees continue to work remotely full or part-time. This remote working environment may pose a heightened risk for security breaches or other disruptions of our information technology environment.

In addition, our products, including our engines, contain interconnected and increasingly complex technologies that control various processes and these technologies are potentially subject to "cyber attacks" and disruption. The impact of a significant information technology event on either our information technology environment or our products could have a material adverse effect on our competitive position, reputation, results of operations, financial condition and cash flows.

We are exposed to political, economic and other risks that arise from operating a multinational business. Greater political, economic and social uncertainty and the evolving globalization of businesses could significantly change the dynamics of our competition, customer base and product offerings and impact our growth globally.

Our business is subject to the political, economic and other risks that are inherent in operating in numerous countries. These risks include:

- public health crises, including the spread of a contagious disease, such as future pandemics or epidemics, quarantines or shutdowns related to public health crises, and other catastrophic events;
- economic and political instability, including international conflicts, war, acts of terrorism or the threat thereof, political or labor unrest, civil unrest, riots or insurrections;
- the difficulty of enforcing agreements and collecting receivables through foreign legal systems;
- trade protection measures and import or export licensing requirements;
- the imposition of taxes on foreign income and tax rates in certain foreign countries that exceed those in the U.S.;
- the imposition of tariffs, exchange controls or other restrictions;
- difficulty in staffing and managing widespread operations and the application of foreign labor regulations;
- required compliance with a variety of foreign laws and regulations; and

- changes in general economic and political conditions, including changes in relationship with the U.S., in countries where we operate, particularly in China and emerging markets.

As we continue to operate and grow our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to our multinational operations will not have a material adverse effect upon us.

In addition, there continues to be significant uncertainty about the future relationships between the U.S. and China, including with respect to trade policies, treaties, government regulations and tariffs. Any increased trade barriers or restrictions on global trade, especially trade with China could adversely impact our competitive position, results of operations, financial condition and cash flows.

We face significant competition in the regions we serve.

The markets in which we operate are highly competitive. We compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. We primarily compete with diesel engines and related diesel products; however, new technologies continue to be developed for gasoline, natural gas, hydrogen, electrification and other technologies, and we will continue to face new competition from these expanding technologies. Our products primarily compete on the basis of performance, price, total cost of ownership, fuel economy, emissions compliance, speed of delivery, quality and customer support. We also face competitors in some emerging regions who have established local practices and long standing relationships with participants in these markets. Additionally, we face increasing competition to develop innovative products that result in lower emissions. There can be no assurance that our products will be able to compete successfully with the products of other companies and in other markets.

Increasing global competition among our customers may affect our existing customer relationships and restrict our ability to benefit from some of our customers' growth.

As our customers in emerging markets continue to grow in size and scope, they are increasingly seeking to export their products to other countries. This has meant greater demand for our advanced engine technologies to help these customers meet the more stringent emissions requirements of developed markets, as well as greater demand for access to our distribution systems for purposes of equipment servicing. As these emerging market customers enter into, and begin to compete in more developed markets, they may increasingly begin to compete with our existing customers in these markets. Our further aid to emerging market customers could adversely affect our relationships with developed market customers. In addition, to the extent the competition does not correspond to overall growth in demand, we may see little or no benefit from this type of expansion by our emerging market customers.

Failure to meet environmental, social and governance (ESG) expectations or standards, or to achieve our ESG goals, could adversely affect our business, results of operations and financial condition.

In recent years, there has been an increased focus from stakeholders on ESG matters, including GHG emissions and climate-related risks, renewable energy, water stewardship, waste management, diversity, equity and inclusion, responsible sourcing and supply chain, human rights and social responsibility. Given our commitment to certain ESG principles, we actively manage these issues and have established and publicly announced certain goals, commitments and targets which we may refine, or even expand further, in the future. These goals, commitments and targets reflect our current plans and aspirations and are not guarantees that we will be able to achieve them. Evolving stakeholder expectations and our efforts to manage these issues, report on them and accomplish our goals present numerous operational, regulatory, reputational, financial, legal and other risks, any of which could have a material adverse impact, including on our reputation.

Such risks and uncertainties include:

- reputational harm, including damage to our relationships with customers, suppliers, investors, governments or other stakeholders;
- adverse impacts on our ability to sell and manufacture products;
- the success of our collaborations with third parties;
- increased risk of litigation, investigations or regulatory enforcement actions;
- unfavorable ESG ratings or investor sentiment;
- diversion of resources and increased costs to control, assess and report on ESG metrics;
- our ability to achieve our goals, commitments and targets within the timeframes announced;
- access to and increased cost of capital and
- adverse impacts on our stock price.

Any failure, or perceived failure, to meet evolving stakeholder expectations and industry standards or achieve our ESG goals, commitments and targets could have a material adverse effect on our business, results of operations and financial condition.

We may be adversely impacted by work stoppages and other labor matters.

At December 31, 2023, we employed approximately 75,500 persons worldwide. Approximately 21,900 of our employees worldwide were represented by various unions under collective bargaining agreements that expire between 2024 and 2028. While we have no reason to believe that we will be materially impacted by work stoppages or other labor matters, there can be no assurance that future issues with our labor unions will be resolved favorably or that we will not encounter future strikes, work stoppages, or other types of conflicts with labor unions or our employees. Any of these consequences may have an adverse effect on us or may limit our flexibility in dealing with our workforce. In addition, many of our customers and suppliers have unionized work forces. Work stoppages or slowdowns experienced by us, our customers or suppliers could result in slowdowns or closures that would have a material adverse effect on our results of operations, financial condition and cash flow.

We are subject to foreign currency exchange rate and other related risks.

We conduct operations in many areas of the world involving transactions denominated in a variety of currencies. We are subject to foreign currency exchange rate risk to the extent that our costs are denominated in currencies other than those in which we earn revenues. In addition, since our financial statements are denominated in U.S. dollars, changes in foreign currency exchange rates between the U.S. dollar and other currencies have had, and will continue to have, an impact on our results of operations, financial condition and cash flows.

We also face risks arising from the imposition of foreign exchange controls and currency devaluations. Foreign exchange controls may limit our ability to convert foreign currencies into U.S. dollars or to remit dividends and other payments by our foreign subsidiaries or businesses located in or conducted within a country imposing controls. Currency devaluations result in a diminished value of funds denominated in the currency of the country instituting the devaluation. See Management's Discussion and Analysis for additional information.

Significant declines in future financial and stock market conditions could diminish our pension plan asset performance and adversely impact our results of operations, financial condition and cash flow.

We sponsor both funded and unfunded domestic and foreign defined benefit pension and other retirement plans. Our pension cost and the required contributions to our pension plans are directly affected by the value of plan assets, the projected and actual rates of return on plan assets and the actuarial assumptions we use to measure our defined benefit pension plan obligations, including the discount rate at which future projected and accumulated pension obligations are discounted to a present value. We could experience increased pension cost due to a combination of factors, including the decreased investment performance of pension plan assets, decreases in the discount rate and changes in our assumptions relating to the expected return on plan assets.

Significant declines in current and future financial and stock market conditions could cause material losses in our pension plan assets, which could result in increased pension cost in future years and adversely impact our results of operations, financial condition and cash flow. Depending upon the severity and length of market declines and government regulatory changes, we may be legally obligated to make pension payments in the U.S. and perhaps other countries and these contributions could be material.

We are exposed to risks arising from the price and availability of energy.

The level of demand for our products and services is influenced in multiple ways by the price and availability of energy. High energy costs generally drive greater demand for better fuel economy in almost all countries in which we operate. Some of our engine products have been developed with a primary purpose of offering fuel economy improvements, and if energy costs decrease or increase less than expected, demand for these products may likewise decrease. The relative unavailability of electricity in some emerging market countries also influences demand for our electricity generating products, such as our diesel generators. If these countries add energy capacity by expanding their power grids at a rate equal to or faster than the growth in demand for energy, the demand for our generating products could also decrease or increase less than would otherwise be the case.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 1C. Cybersecurity

Material Cybersecurity Risks, Threats and Incidents

To date, risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, have not materially affected and are not reasonably likely to materially affect us, including our business strategy, results of operations or financial condition. Additional information on cybersecurity risks we face is discussed in Part I, Item 1A "Risk Factors" under the heading "General," which should be read in conjunction with the foregoing information.

Cybersecurity Governance

We are committed to protecting our Information Technology (IT) assets and the data stored within these assets. This commitment includes the protection of IT assets relevant to our operations, stakeholder data (including employee, customer and supplier data), intellectual property and our products.

The Cummins Enterprise Cybersecurity function, which is responsible for the administration of our enterprise cybersecurity program, is led by the Chief Information Security Officer, who has more than 25 years of information technology, IT architecture and operations experience in the industrial manufacturing industry. The Chief Information Security Officer reports to our Chief Information Officer. These leaders provide regular updates to the Audit Committee of the Board on cybersecurity risks. Through these updates, the Audit Committee receives a cybersecurity dashboard illustrating the status of key cybersecurity activities such as email phishing, event logging and data encryption. Information regarding relevant cybersecurity training is provided as well.

The Product Cybersecurity function, which is responsible for the administration of our product cybersecurity program, is led by the Executive Director – Corporate Product Cybersecurity and Functional Safety, who has more than 35 years of automotive industry and electronic controls design experience. The Executive Director – Corporate Product Cybersecurity and Functional Safety reports to our Chief Technical Officer. These leaders provide regular updates to the SET Committee of the Board on product related cybersecurity risks. Through these updates, the SET Committee receives a report discussing product level vulnerability management, product level incident management and the status of relevant product cybersecurity activities.

Our processes for oversight of cybersecurity risks are integrated into our Enterprise Risk Management (ERM) program, which is led by the Executive Director, Global Risk. To govern the ERM program, we established an Executive Risk Council that meets regularly to review and monitor our most significant enterprise risks, including the prevention, detection and mitigation plans, including with respect to cybersecurity. The Executive Risk Council is comprised of senior leaders with cross-functional experience and responsibilities.

Our Board and its committees are engaged in the oversight of our most significant enterprise risks, including cybersecurity risks. We assign a member of our executive management team to report material information to our Board regarding these risks. The Audit Committee, working with the Chief Information Officer, provides oversight of the enterprise cybersecurity program. The SET Committee, working with the Chief Technical Officer, provides oversight of the product cybersecurity program.

Our Board, Audit Committee and SET Committee receive reports and information from our senior leaders who have functional responsibility for the mitigation of enterprise cybersecurity and product cybersecurity risks. These leaders meet with the committees on a regular basis, at least four times per year, and provide dashboards or reports, which summarize cybersecurity risks and action plans.

Cybersecurity Risk Management and Strategy

We have an Enterprise Cybersecurity Management Review Group (Enterprise Cybersecurity MRG), which functions as a steering committee to provide oversight and strategic direction for the enterprise cybersecurity program. The Enterprise Cybersecurity MRG is comprised of senior leaders with cross-functional experience and responsibilities. This MRG meets regularly, at least four times per year, with our Chief Information Security Officer to review the cybersecurity program and related risks. The MRG receives updates on the status of key cybersecurity initiatives and is responsible for our response to material cybersecurity incidents.

We have a Product Cybersecurity Management Review Group (Product Cybersecurity MRG), which functions as a steering committee to provide oversight and strategic direction for the product cybersecurity program. The Product Cybersecurity MRG is comprised of senior leaders with cross-functional experience and responsibilities. The Product Cybersecurity MRG meets regularly with the Executive Director – Corporate Product Cybersecurity and Functional Safety to review the cybersecurity program, including risks and the status of key initiatives.

Both the Enterprise and Product Cybersecurity functions administer policies related to cybersecurity in consultation with other stakeholders at the company. We have a third-party risk management process, which is designed to assess and manage cybersecurity risks posed by third parties. This process is administered by the Enterprise Cybersecurity function.

In addition, a cybersecurity operations team is in place, which monitors the environment for cybersecurity incidents on a regular basis. We have incident response plans to assess and manage cybersecurity incidents. These plans include escalation procedures based on the nature and severity of the incident. The most critical incidents, which could be material to us, are escalated to executive management and the Enterprise Cybersecurity MRG. The Enterprise Cybersecurity MRG practices the incident response process through a tabletop exercise facilitated by external consultants. In addition, cyber insurance is in place, which may mitigate the impact of cybersecurity incidents.

We engage outside experts where appropriate to aid in developing and implementing the cybersecurity program and to review its operations. Our Internal Audit function also performs regular assessments of the design and operational effectiveness of the program’s key processes and controls. We will continue to enhance our cybersecurity operations to respond to the dynamic cybersecurity landscape.

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ITEM 2. Properties

Manufacturing Facilities

Our principal manufacturing facilities by segment are as follows:

Segment	U.S. Facilities	Facilities Outside the U.S.
Components	**Indiana:** Columbus	**Australia:** Kilsyth
	North Carolina: Fletcher	**Brazil:** Sao Paulo
	South Carolina: Charleston	**China:** Shanghai, Wuhan, Wuxi
	Tennessee: Cookeville	**France:** Quimper
	Wisconsin: Mineral Point, Neillsville	**Germany:** Marktheidenfeld
		India: Dewas, Phaltan, Pithampur, Pune, Rudrapur
		Mexico: Ciudad Juarez, Monterrey, San Luis Potosi
		South Korea: Suwon
		U.K.: Darlington, Huddersfield
Engine	**Indiana:** Columbus	**Brazil:** Sao Paulo
	New York: Lakewood	**India:** Phaltan
	North Carolina: Whitakers	**U.K.:** Darlington
Power Systems	**Indiana:** Elkhart, Seymour	**Brazil:** Sao Paulo
	Minnesota: Fridley	**China:** Wuhan, Wuxi
	New Mexico: Clovis	**India:** Ahmednagar, Phaltan, Pune, Ranjangaon
		Mexico: San Luis Potosi
		Nigeria: Lagos
		Romania: Craiova
		U.K.: Daventry
Accelera	**Indiana:** Columbus	**Belgium:** Oevel
	Minnesota: Fridley	**Canada:** Mississauga
	North Carolina: Asheville, Forest City	**China:** Shanghai, Tianjin
		Germany: Herten

In addition, engines and engine components are manufactured by joint ventures or independent licensees at manufacturing plants in the U.S., China, India, Japan, Sweden, U.K. and Mexico.

Distribution Facilities

The principal distribution facilities that serve our segments are as follows:

U.S. Facilities	Facilities Outside the U.S.
Arizona: Avondale	**Australia:** Mackay, Perth
Colorado: Henderson	**Canada:** Fort McMurray
New Jersey: Kearny	**China:** Beijing
Texas: Dallas	**India:** Pune
Utah: West Valley City	**South Africa:** Johannesburg
	U.K.: Wellingborough

Supply Chain Facilities

The principal supply chain facilities that serve our segments are as follows:

U.S. Facilities	Facilities Outside the U.S.
Georgia: Atlanta	**Belgium:** Rumst
Indiana: Columbus, Indianapolis	**China:** Beijing, Shanghai, Wuhan
Kentucky: Walton	**India:** Phaltan, Pithampur, Pune
North Carolina: Enfield	**Mexico:** Juarez, San Luis Potosi
Oregon: Portland	**U.K.:** Darlington, Daventry
Pennsylvania: Harrisburg	
South Carolina: Charleston	
Tennessee: Memphis	
Texas: Dallas	

Other Facilities

We operate numerous management, research and development, marketing and administrative facilities globally.

ITEM 3. Legal Proceedings

The matters described under "Legal Proceedings" in NOTE 15, "COMMITMENTS AND CONTINGENCIES," to the Consolidated Financial Statements are incorporated herein by reference.

ITEM 4. Mine Safety Disclosures

Not Applicable.

PART II

ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed on the NYSE under the symbol "CMI." For other matters related to our common stock and shareholders' equity, see NOTE 16, "CUMMINS INC. SHAREHOLDERS' EQUITY," to the Consolidated Financial Statements.

At December 31, 2023, there were 2,371 holders of record of Cummins Inc.'s $2.50 par value common stock.

The following information is provided pursuant to Item 703 of Regulation S-K:

	Issuer Purchases of Equity Securities			
Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in millions) [1]
October 1 - October 31	—	$ —	—	$ 2,218
November 1 - November 30	—	—	—	2,218
December 1 - December 31	—	—	—	2,218
Total	—	—	—	

[1] Shares repurchased under our Key Employee Stock Investment Plan only occur in the event of a participant default, which cannot be predicted, and were excluded from this column.

In December 2021, the Board authorized the acquisition of up to $2.0 billion of additional common stock upon completion of the $2.0 billion repurchase plan authorized in 2019. During the three months ended December 31, 2023, we did not make any repurchases of common stock. The dollar value remaining available for future purchases under the 2019 program at December 31, 2023, was $218 million.

Our Key Employee Stock Investment Plan allows certain employees, other than officers, to purchase shares of common stock on an installment basis up to an established credit limit. We hold participants’ shares as security for the loans and would, in effect, repurchase shares only if the participant defaulted in repayment of the loan. Shares associated with participants' sales are sold as open-market transactions via a third-party broker.

Performance Graph (Unaudited)

The following Performance Graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any of our future filings under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the cumulative total shareholder return on our common stock for the last five years with the cumulative total return on the S&P 500 Index and an index of peer companies selected by us. In 2023, we re-evaluated our peer group that the Board benchmarks against and chose to include companies that participate in similar end-markets and have similar businesses. Dana Incorporated was added to provide exposure to similar products including e-axles, drivetrain components and transmissions and electric and hybrid products, while Donaldson Company Inc. was removed due to the IPO of Atmus (formerly our filtration business) into a separate publicly traded company. Our revised peer group includes BorgWarner Inc., Caterpillar, Inc., Daimler Truck Holding AG, Deere & Company, Dana Inc., Eaton Corporation, Emerson Electric Co., Fortive Corporation, W.W. Grainger Inc., Honeywell International, Illinois Tool Works Inc., PACCAR, Parker-Hannifin Corporation, Textron Inc. and Volvo AB. Daimler Truck Holding AG is excluded from the peer index in the following graph due to the corporate split and public filing in December 2021. Each of the measures of cumulative total return assumes reinvestment of dividends. The comparisons in this table are required by the SEC and are not intended to forecast or be indicative of possible future performance of our stock.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

AMONG CUMMINS INC., S&P 500 INDEX AND CUSTOM PEER GROUP

2064

ASSUMES $100 INVESTED ON DECEMBER 31, 2018

ASSUMES DIVIDENDS REINVESTED

FISCAL YEAR ENDING DECEMBER 31, 2023

ITEM 6.   [Reserved]

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

ORGANIZATION OF INFORMATION

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) was prepared to provide the reader with a view and perspective of our business through the eyes of management and should be read in conjunction with our Consolidated Financial Statements and the accompanying notes to those financial statements. Our MD&A is presented in the following sections:

- **EXECUTIVE SUMMARY AND FINANCIAL HIGHLIGHTS**
- **RESULTS OF OPERATIONS**
- **OPERATING SEGMENT RESULTS**
- **2024 OUTLOOK**
- **LIQUIDITY AND CAPITAL RESOURCES**
- **APPLICATION OF CRITICAL ACCOUNTING ESTIMATES**
- **RECENTLY ADOPTED AND RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS**

The following is the discussion and analysis of changes in the financial condition and results of operations for fiscal year 2023 compared to fiscal year 2022. The discussion and analysis of fiscal year 2021 and changes in the financial condition and results of operations for fiscal year 2022 compared to fiscal year 2021, that are not included in this Form 10-K, may be found in Part II, ITEM 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the Securities and Exchange Commission (SEC) on February 14, 2023.

EXECUTIVE SUMMARY AND FINANCIAL HIGHLIGHTS

Overview

We are a global power leader that designs, manufactures, distributes and services diesel, natural gas, electric and hybrid powertrains and powertrain-related components including filtration, aftertreatment, turbochargers, fuel systems, valvetrain technologies, controls systems, air handling systems, automated transmissions, axles, drivelines, brakes, suspension systems, electric power generation systems, batteries, electrified power systems, hydrogen production technologies and fuel cell products. We sell our products to original equipment manufacturers (OEMs), distributors, dealers and other customers worldwide. We have long-standing relationships with many of the leading manufacturers in the markets we serve, including PACCAR Inc, Traton Group, Daimler Trucks North America and Stellantis N.V. We serve our customers through a service network of approximately 450 wholly-owned, joint venture and independent distributor locations and more than 19,000 Cummins certified dealer locations in approximately 190 countries and territories.

As previously announced, beginning in the first quarter of 2023, we realigned certain businesses and regions within our reportable segments to be consistent with how our segment managers monitor the performance of our segments. We reorganized the businesses within our Components segment to carve out the electronics business into the newly formed software and electronics business and combined the turbo technologies and fuel systems businesses into the newly formed engine components business. On May 26, 2023, with the Atmus Filtration Technologies Inc. (Atmus) initial public offering (IPO), we changed the name of our Components' filtration business to Atmus. Our Components segment now consists of the following businesses: axles and brakes, emission solutions, engine components, Atmus, automated transmissions and software and electronics. In the first quarter of 2023, as a result of the indefinite suspension of operations in Russia, we reorganized the regional management structure of our Distribution segment and moved all Commonwealth of Independent States (CIS) sales into the Europe and Africa and Middle East regions. The Russian portion of prior period CIS sales moved to the Europe region. In March 2023, we rebranded our New Power segment as "Accelera" to better represent our commitment to zero-emission technologies. In addition, we moved our NPROXX joint venture from the Accelera segment to the Engine segment, which adjusted both the equity, royalty and interest income (loss) from investees and segment EBITDA (defined as earnings or losses before interest expense, income taxes, depreciation, amortization and noncontrolling interests) line items for the prior years. We started to report results for the changes within our operating segments effective January 1, 2023, and reflected these changes in the historical periods presented. See NOTE 23, "FORMATION OF ATMUS AND IPO," to our Consolidated Financial Statements for additional information about the Atmus IPO.

Our reportable operating segments consist of Components, Engine, Distribution, Power Systems and Accelera. This reporting structure is organized according to the products and markets each segment serves. The Components segment sells axles, drivelines, brakes and suspension systems for commercial diesel and natural gas applications, aftertreatment systems, turbochargers, fuel systems, valvetrain technologies, filtration products, automated transmissions and electronics. The Engine segment produces engines (15 liters and smaller) and associated parts for sale to customers in on-highway and various off-highway markets. Our engines are used in trucks of all sizes, buses and recreational vehicles, as well as in various industrial applications, including construction, agriculture, power generation systems and other off-highway applications. The Distribution segment includes wholly-owned and partially-owned distributorships engaged in wholesaling engines, generator sets and service parts, as well as performing service and repair activities on our products and maintaining relationships with various OEMs throughout the world. The Power Systems segment is an integrated power provider, which designs, manufactures and sells engines (16 liters and larger) for industrial applications (including mining, oil and gas, marine and rail), standby and prime power generator sets, alternators and other power components. The Accelera segment designs, manufactures, sells and supports hydrogen production technologies as well as electrified power systems with innovative components and subsystems, including battery, fuel cell and electric powertrain technologies. The Accelera segment is currently in the early stages of commercializing these technologies with efforts primarily focused on the development of our electrolyzers for hydrogen production and electrified power systems and related components and subsystems. We continue to serve all our markets as they adopt electrification and alternative power technologies, meeting the needs of our OEM partners and end customers.

Our financial performance depends, in large part, on varying conditions in the markets we serve, particularly the on-highway, construction and general industrial markets. Demand in these markets tends to fluctuate in response to overall economic conditions. Our sales may also be impacted by OEM inventory levels, production schedules, stoppages and supply chain challenges. Economic downturns in markets we serve generally result in reduced sales of our products and can result in price reductions in certain products and/or markets. As a worldwide business, our operations are also affected by geopolitical risks, currency fluctuations, political and economic uncertainty, public health crises (epidemics or pandemics) and regulatory matters, including adoption and enforcement of environmental and emission standards, in the countries we serve. As part of our growth strategy, we invest in businesses in certain countries that carry higher levels of these risks such as China, Brazil, India, Mexico and countries in the Middle East and Africa. At the same time, our geographic diversity and broad product and service offerings have helped limit the impact from a drop in demand in any one industry, region, the economy of any single country or customer on our consolidated results.

Agreement in Principle

In December 2023, we announced that we reached an agreement in principle with the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the Environmental and Natural Resources Division of the U.S. Department of Justice (DOJ) and the California Attorney General's Office (CA AG) to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S. (collectively, the Agreement in Principle). As part of the Agreement in Principle, among other things, we agreed to pay civil penalties, complete recall requirements, undertake mitigation projects, provide extended warranties, undertake certain testing, take certain corporate compliance measures and make certain payments. Failure to comply with the terms and conditions of the Agreement in Principle will subject us to further stipulated penalties. We recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. This charge was in addition to the previously announced charges of $59 million for the recalls of model years 2013 through 2018 RAM 2500 and 3500 trucks and model years 2016 through 2019 Titan trucks. Of this amount, $1.938 billion relates to payments that are expected to be made in 2024. See NOTE 2, "AGREEMENT IN PRINCIPLE," to our Consolidated Financial Statements for additional information.

2023 Results

A summary of our results is as follows:

	Years ended December 31,		
In millions, except per share amounts	**2023**	**2022**	**2021**
Net sales	**$ 34,065**	$ 28,074	$ 24,021
Net income attributable to Cummins Inc.	**735**	2,151	2,131
Earnings per common share attributable to Cummins Inc.			
Basic	**$ 5.19**	$ 15.20	$ 14.74
Diluted	**5.15**	15.12	14.61

Worldwide revenues improved 21 percent in 2023 compared to 2022, due to increased axles and brakes sales in the Components segment of $2.9 billion from the Meritor acquisition on August 3, 2022, and higher demand in all operating segments and most geographic regions, partially offset by the decrease in Russian sales due to the indefinite suspension of our Russian operations in March 2022. Net sales in the U.S. and Canada improved by 22 percent primarily due to incremental sales of axles and brakes, increased demand in all Distribution product lines and stronger demand in heavy-duty and medium-duty truck markets, which positively impacted most Components businesses. International demand (excludes the U.S. and Canada) improved by 20 percent, with higher sales in most geographic regions, partially offset by a decrease in Russian sales due to the indefinite suspension of our operations in March 2022. The increase in international sales was principally due to incremental sales of axles and brakes in Western Europe, Latin America, Asia Pacific and India and higher demand for power generation equipment. Unfavorable foreign currency fluctuations impacted international sales by 1 percent (mainly the Chinese renminbi and Indian rupee, partially offset by the Euro).

The following table contains sales and EBITDA by operating segment for the years ended December 31, 2023, and 2022. See NOTE 25, "OPERATING SEGMENTS," to the Consolidated Financial Statements for additional information and a reconciliation of our segment information to the corresponding amounts in our Consolidated Statements of Net Income.

	Operating Segments							
	2023			2022			Percent change 2023 vs. 2022	
In millions	**Sales**	**Percent of Total**	**EBITDA**	**Sales**	**Percent of Total**	**EBITDA**	**Sales**	**EBITDA**
Components	**$13,409**	**39 %**	**$1,840**	$ 9,736	34 %	$1,346	38 %	37 %
Engine	**11,684**	**34 %**	**1,630**	10,945	39 %	1,535	7 %	6 %
Distribution	**10,249**	**30 %**	**1,209**	8,929	32 %	888	15 %	36 %
Power Systems	**5,673**	**17 %**	**836**	5,033	18 %	596	13 %	40 %
Accelera	**354**	**1 %**	**(443)**	198	1 %	(334)	79 %	(33)%
Intersegment eliminations	**(7,304)**	**(21)%**	**(2,055)**	(6,767)	(24)%	(232)	8 %	NM
Total	**$34,065**	**100 %**	**$3,017** [1]	$28,074	100 %	$3,799 [2]	21 %	(21)%

[1] EBITDA includes $2.0 billion related to the Agreement in Principle and $100 million of costs associated with the IPO and separation of Atmus. See NOTE 2, "AGREEMENT IN PRINCIPLE," to our Consolidated Financial Statements for additional information.

[2] EBITDA includes $111 million of costs associated with the indefinite suspension of our Russian operations, $83 million of costs related to the acquisition and integration of Meritor and $81 million of costs associated with the planned separation of Atmus. See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

Net income attributable to Cummins Inc. for 2023 was $735 million, or $5.15 per diluted share, on sales of $34.1 billion, compared to 2022 net income attributable to Cummins Inc. of $2.2 billion, or $15.12 per diluted share, on sales of $28.1 billion. The decreases in net income attributable to Cummins Inc. and earnings per diluted share were driven by the $2.0 billion charge related to the Agreement in Principle and increased compensation expenses, partially offset by higher net sales and improved gross margins. The increase in gross margin was mainly due to favorable pricing and higher volumes (including sales of axles and brakes from the Meritor acquisition), partially offset by higher compensation expenses.

We generated $4.0 billion of operating cash flows in 2023, compared to $2.0 billion in 2022. See the section titled "Cash Flows" in the "LIQUIDITY AND CAPITAL RESOURCES" section for a discussion of items impacting cash flows.

Our debt to capital ratio (total capital defined as debt plus equity) at December 31, 2023, was 40.3 percent, compared to 44.1 percent at December 31, 2022. The decrease was primarily due to lower debt. At December 31, 2023, we had $2.7 billion in cash and marketable securities on hand and access to our $4.0 billion credit facilities (net of commercial paper outstanding), if necessary, to meet acquisition, working capital, investment and funding needs.

On October 2, 2023, we repaid our $500 million senior notes, due 2023, using a combination of cash on hand and additional commercial paper borrowings.

On October 2, 2023, we purchased all of the equity ownership of Faurecia's U.S. and Europe commercial vehicle exhaust business from the Forvia Group for $210 million, subject to final working capital and other adjustments. See NOTE 24, "ACQUISITIONS," to the Consolidated Financial Statements for additional information.

In July 2023, the Board authorized an increase to our quarterly dividend of approximately 7 percent from $1.57 per share to $1.68 per share.

On June 29, 2023, a share purchase agreement was executed with the minority shareholders of Hydrogenics Corporation (Hydrogenics) whereby we agreed to pay the minority shareholders $335 million for their 19 percent ownership, including the settlement of shareholder loans of $48 million. As part of the share purchase agreement, Hydrogenics entered into three non-interest-bearing promissory notes with $175 million paid on July 31, 2023, and the remaining $160 million due in three installments through 2025. See NOTE 24, "ACQUISITIONS," to the Consolidated Financial Statements for additional information.

On June 5, 2023, we entered into an amended and restated 364-day credit agreement that allows us to borrow up to $2.0 billion of unsecured funds at any time prior to June 3, 2024. This credit agreement amended and restated the prior $1.5 billion 364-day credit facility that was scheduled to mature on August 16, 2023. In connection with the 364-day credit agreement, effective June 5, 2023, we terminated our $500 million incremental 364-day credit agreement dated August 17, 2022.

On May 23, 2023, in connection with the Atmus IPO, Cummins issued approximately $350 million of commercial paper with certain lenders. On May 26, 2023, Atmus shares began trading on the New York Stock Exchange under the symbol "ATMU." The IPO was completed on May 30, 2023, whereby Cummins exchanged 19.5 percent (approximately 16 million shares) of its ownership in Atmus, at $19.50 per share, to retire $299 million of the commercial paper as proceeds from the offering through a non-cash transaction. As we still own 80.5 percent of Atmus shares, it remains included in our Consolidated Financial Statements. See NOTE 23, "FORMATION OF ATMUS AND IPO," to the Consolidated Financial Statements for additional information.

On April 3, 2023, we purchased all of the equity ownership interest of Teksid Hierro de Mexico, S.A. de C.V. (Teksid MX) and Teksid, Inc. from Stellantis N.V. for approximately $143 million, subject to certain adjustments set forth in the agreement. See NOTE 24, "ACQUISITIONS," to the Consolidated Financial Statements for additional information.

In 2023, the investment gain on our U.S. pension trusts was 6.81 percent, while our U.K. pension trusts' loss was 4.37 percent. Our global pension plans, including our unfunded and non-qualified plans, were 113 percent funded at December 31, 2023. Our U.S. defined benefit plans (qualified and non-qualified), which represented approximately 69 percent of the worldwide pension obligation, were 113 percent funded, and our U.K. defined benefit plans were 113 percent funded at December 31, 2023. We expect to contribute approximately $67 million in cash to our global pension plans in 2024. In addition, we expect our 2024 net periodic pension cost to approximate $33 million. See application of critical accounting estimates within MD&A and NOTE 11, "PENSIONS AND OTHER POSTRETIREMENT BENEFITS," to the Consolidated Financial Statements, for additional information concerning our pension and other postretirement benefit plans.

As of the date of this filing, our credit ratings from Moody's Investor Services, Inc. remain unchanged and the outlook remains stable, while Standard and Poor's Rating Services downgraded our long-term rating to A while our short-term rate remained at A1 and our outlook remained stable.

RESULTS OF OPERATIONS

In millions (except per share amounts)	Years ended December 31, 2023	2022	2021	Favorable/(Unfavorable) 2023 vs. 2022 Amount	Percent	2022 vs. 2021 Amount	Percent
NET SALES	**$34,065**	$28,074	$24,021	$ 5,991	21 %	$4,053	17 %
Cost of sales	**25,816**	21,355	18,326	(4,461)	(21)%	(3,029)	(17)%
GROSS MARGIN	**8,249**	6,719	5,695	1,530	23 %	1,024	18 %
OPERATING EXPENSES AND INCOME							
Selling, general and administrative expenses	**3,333**	2,687	2,374	(646)	(24)%	(313)	(13)%
Research, development and engineering expenses	**1,500**	1,278	1,090	(222)	(17)%	(188)	(17)%
Equity, royalty and interest income from investees	**483**	349	506	134	38 %	(157)	(31)%
Other operating expense, net	**2,138**	174	31	(1,964)	NM	(143)	NM
OPERATING INCOME	**1,761**	2,929	2,706	(1,168)	(40)%	223	8 %
Interest expense	**375**	199	111	(176)	(88)%	(88)	(79)%
Other income, net	**240**	89	156	151	NM	(67)	(43)%
INCOME BEFORE INCOME TAXES	**1,626**	2,819	2,751	(1,193)	(42)%	68	2 %
Income tax expense	**786**	636	587	(150)	(24)%	(49)	(8)%
CONSOLIDATED NET INCOME	**840**	2,183	2,164	(1,343)	(62)%	19	1 %
Less: Net income attributable to noncontrolling interests	**105**	32	33	(73)	NM	1	3 %
NET INCOME ATTRIBUTABLE TO CUMMINS INC.	**$ 735**	$ 2,151	$ 2,131	$(1,416)	(66)%	$ 20	1 %
Diluted earnings per common share attributable to Cummins Inc.	**$ 5.15**	$ 15.12	$ 14.61	$ (9.97)	(66)%	$ 0.51	3 %

"NM" - not meaningful information

Percent of sales	2023	2022	2021	Favorable/ (Unfavorable) Percentage Points 2023 vs. 2022	2022 vs. 2021
Gross margin	**24.2 %**	23.9 %	23.7 %	0.3	0.2
Selling, general and administrative expenses	**9.8 %**	9.6 %	9.9 %	(0.2)	0.3
Research, development and engineering expenses	**4.4 %**	4.6 %	4.5 %	0.2	(0.1)

2023 vs. 2022

Net Sales

Net sales increased $6.0 billion, primarily driven by the following:

- Components segment sales increased 38 percent largely due to axles and brakes sales from the Meritor acquisition.
- Distribution segment sales increased 15 percent due to higher demand across all product lines, especially in North America.
- Engine segment sales increased 7 percent principally due to stronger heavy-duty and medium-duty truck demand in North America.
- Power Systems segment sales increased 13 percent primarily due to higher demand in power generation markets.

These increases were partially offset by unfavorable foreign currency fluctuations of 1 percent of total sales, primarily in the Chinese renminbi and Indian rupee, partially offset by the Euro.

Sales to international markets (excluding the U.S. and Canada), based on location of customers, were 39 percent of total net sales in 2023, compared with 40 percent of total net sales in 2022. A more detailed discussion of sales by segment is presented in the "OPERATING SEGMENT RESULTS" section.

Cost of Sales

The types of expenses included in cost of sales are the following: parts and material consumption, including direct and indirect materials; compensation and related expenses including variable compensation, salaries and fringe benefits; depreciation on production equipment and facilities and amortization of technology intangibles; estimated costs of warranty programs and campaigns; production utilities; production-related purchasing; warehousing, including receiving and inspection; freight costs; engineering support costs; repairs and maintenance; production and warehousing facility property insurance; rent for production facilities; charges for the write-downs of inventories in Russia and other production overhead.

Gross Margin

Gross margin increased $1.5 billion and increased 0.3 points as a percentage of sales. The increase in gross margin and gross margin as a percentage of sales was mainly due to favorable pricing and higher volumes (including sales of axles and brakes from the Meritor acquisition), partially offset by higher compensation expenses. The provision for base warranties issued as a percentage of sales was 1.8 percent in 2023 and 1.8 percent in 2022.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased $646 million, primarily due to higher compensation expenses and higher consulting expenses. Compensation and related expenses include variable compensation, salaries and fringe benefits. Overall, selling, general and administrative expenses, as a percentage of sales, increased to 9.8 percent in 2023 from 9.6 percent in 2022, as selling, general and administrative expenses increased at a faster rate than net sales.

Research, Development and Engineering Expenses

Research, development and engineering expenses increased $222 million, principally due to higher compensation costs. Compensation and related expenses include variable compensation, salaries and fringe benefits. Overall, research, development and engineering expenses, as a percentage of sales, decreased to 4.4 percent in 2023 from 4.6 percent in 2022, as research, development and engineering expenses increased at a slower rate than net sales.

Research activities continue to focus on development of new products and improvements of current technologies to meet future emission standards around the world, improvements in fuel economy performance of diesel and natural gas-powered engines and related components, as well as development activities around hydrogen engine solutions, battery electric, fuel cell electric and hydrogen production technologies.

Equity, Royalty and Interest Income From Investees

Equity, royalty and interest income from investees increased $134 million, mainly due to the absence of the $28 million impairment of our Russian joint venture with KAMAZ, higher earnings at Dongfeng Cummins Engine Co., Ltd., Komatsu Cummins Chile, Ltda. and Beijing Foton Cummins Engine Co., Ltd., higher royalty and interest income from investees and increased joint venture earnings from the Meritor acquisition. See NOTE 4, "INVESTMENTS IN EQUITY INVESTEES," and NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

Other Operating Expense, Net

Other operating (expense) income, net was as follows:

In millions	Years ended December 31, 2023	2022
Agreement in Principle [1]	**$ (2,036)**	$ —
Amortization of intangible assets	**(133)**	(70)
Loss on write-off of assets	**(9)**	(7)
Russian suspension costs [2]	**—**	(63)
Asset impairments and other charges	**—**	(36)
Royalty income, net	**29**	7
Other, net	**11**	(5)
Total other operating expense, net	**$ (2,138)**	$ (174)

[1] See NOTE 2, "AGREEMENT IN PRINCIPLE," to our Consolidated Financial Statements for additional information.

[2] See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

Interest Expense

Interest expense increased $176 million, primarily due to higher weighted-average term loan borrowings and increased interest rates.

Other Income, Net

Other income (expense), net was as follows:

In millions	Years ended December 31, 2023	2022
Non-service pension and OPEB income	**$ 125**	$ 140
Interest income	**95**	49
Gain (loss) on corporate owned life insurance	**26**	(102)
Gain (loss) on marketable securities, net	**15**	(7)
Foreign currency loss, net	**(30)**	(8)
Other, net	**9**	17
Total other income, net	**$ 240**	$ 89

Income Tax Expense

Our effective tax rate for 2023 was 48.3 percent compared to 22.6 percent for 2022.

The year ended December 31, 2023, contained unfavorable net discrete items of $397 million, primarily due to $398 million in the fourth quarter related to the $2.0 billion charge from the Agreement in Principle, $22 million of unfavorable adjustments for uncertain tax positions and $3 million of net unfavorable other discrete tax items, partially offset by $21 million of favorable return to provision adjustments and $5 million of favorable share-based compensation tax benefit.

The year ended December 31, 2022, contained discrete tax items that netted to zero, primarily due to $31 million of favorable changes in accrued withholding taxes, $29 million of favorable changes in tax reserves, $15 million of favorable valuation allowance adjustments and $9 million of favorable other net discrete items, offset by $69 million of unfavorable tax costs associated with internal restructuring ahead of the planned separation of Atmus and $15 million of unfavorable return to provision adjustments related to the 2021 filed tax returns.

The change in effective tax rate for the year ended December 31, 2023, versus year ended December 31, 2022, was primarily due to the Agreement in Principle, of which $1.732 billion (primarily related to penalties) was non-deductible for tax purposes, jurisdictional mix of pre-tax income and actual and planned repatriations of earnings back to the U.S. See NOTE 2, "AGREEMENT IN PRINCIPLE," to our Consolidated Financial Statements for additional information.

Our effective tax rate for 2024 is expected to approximate 24.0 percent, excluding any discrete tax items that may arise.

Net Income Attributable to Noncontrolling Interests

Noncontrolling interests eliminate the income or loss attributable to non-Cummins ownership interests in our consolidated entities. Noncontrolling interests in income of consolidated subsidiaries increased $73 million principally due to higher earnings at Cummins India

Limited and Eaton Cummins Joint Venture, as well as earnings attributable to the divested, noncontrolling interest in Atmus.

2022 vs. 2021

For prior year results of operations comparisons to 2021 see the Results of Operations section of our 2022 Form 10-K.

Comprehensive Income - Foreign Currency Translation Adjustment

The foreign currency translation adjustment was a net gain of $92 million and net loss of $384 million for the years ended December 31, 2023 and 2022, respectively. The details were as follows:

	Years ended December 31,			
	2023		2022	
In millions	Translation adjustment	Primary currency driver vs. U.S. dollar	Translation adjustment	Primary currency driver vs. U.S. dollar
Wholly-owned subsidiaries	**$ 118**	British pound and Brazilian real, partially offset by Chinese renminbi	$ (250)	Chinese renminbi and Indian rupee
Equity method investments	**(23)**	Chinese renminbi, partially offset by Brazilian real	(94)	Chinese renminbi
Consolidated subsidiaries with a noncontrolling interest	**(3)**	Chinese renminbi	(40)	Indian rupee
Total	**$ 92**		$ (384)	

2022 vs. 2021

For prior year foreign currency translation adjustment comparisons to 2021 see the Results of Operations section of our 2022 Form 10-K.

OPERATING SEGMENT RESULTS

As previously announced, beginning in the first quarter of 2023, we realigned certain businesses and regions within our reportable segments to be consistent with how our segment managers monitor the performance of our segments. We reorganized the businesses within our Components segment to carve out the electronics business into the newly formed software and electronics business and combined the turbo technologies and fuel systems businesses into the newly formed engine components business. On May 26, 2023, with the IPO, we changed the name of our Components' filtration business to Atmus. Our Components segment now consists of the following businesses: axles and brakes, emission solutions, engine components, Atmus, automated transmissions and software and electronics. In the first quarter of 2023, as a result of the indefinite suspension of operations in Russia, we reorganized the regional management structure of our Distribution segment and moved all Commonwealth of Independent States (CIS) sales into the Europe and Africa and Middle East regions. The Russian portion of prior period CIS sales moved to the Europe region. In March 2023, we rebranded our New Power segment as "Accelera" to better represent our commitment to zero-emission technologies. In addition, we moved our NPROXX joint venture from the Accelera segment to the Engine segment, which adjusted both the equity, royalty and interest income from investees and segment EBITDA line items for the current and prior year. We started to report results for the changes within our operating segments effective January 1, 2023, and reflected these changes in the historical periods presented. See NOTE 23, "FORMATION OF ATMUS AND IPO," to our Consolidated Financial Statements for additional information about the Atmus IPO.

Our reportable operating segments consist of the Components, Engine, Distribution, Power Systems and Accelera segments. This reporting structure is organized according to the products and markets each segment serves. We use segment EBITDA as the basis for the Chief Operating Decision Maker to evaluate the performance of each of our reportable operating segments. We believe EBITDA is a useful measure of our operating performance as it assists investors and debt holders in comparing our performance on a consistent basis without regard to financing methods, capital structure, income taxes or depreciation and amortization methods, which can vary significantly depending upon many factors. Segment amounts exclude certain expenses not specifically identifiable to segments. See NOTE 25, "OPERATING SEGMENTS," to the Consolidated Financial Statements for additional information and a reconciliation of our segment information to the corresponding amounts in our Consolidated Statements of Net Income.

Following is a discussion of results for each of our operating segments.

For all prior year segment results comparisons to 2021 see the Results of Operations section of our 2022 Form 10-K.

Components Segment Results

Financial data for the Components segment was as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
				2023 vs. 2022		2022 vs. 2021	
In millions	2023	2022	2021	Amount	Percent	Amount	Percent
External sales	**$ 11,531**	$ 7,847	$ 5,932	$3,684	47 %	$1,915	32 %
Intersegment sales	**1,878**	1,889	1,733	(11)	(1)%	156	9 %
Total sales	**13,409**	9,736	7,665	3,673	38 %	2,071	27 %
Research, development and engineering expenses	**387**	309	307	(78)	(25)%	(2)	(1)%
Equity, royalty and interest income from investees	**97**	71	50	26	37 %	21	42 %
Interest income	**31**	12	5	19	NM	7	NM
Russian suspension costs [1]	**—**	5	—	5	100 %	(5)	NM
Segment EBITDA	**1,840** [2]	1,346 [3]	1,180	494	37 %	166	14 %
				Percentage Points		Percentage Points	
Segment EBITDA as a percentage of total sales	**13.7 %**	13.8 %	15.4 %		(0.1)		(1.6)

"NM" - not meaningful information

[1] See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

[2] Includes costs associated with the IPO and separation of Atmus of $78 million.

[3] Includes $83 million of costs related to the acquisition and integration of Meritor and $28 million of costs associated with the separation of Atmus.

As noted above, the descriptions of the two new businesses are as follows:

- **Engine components -** We design, manufacture and market turbocharger, fuel system and valvetrain technologies for light-duty, mid-range, heavy-duty and high-horsepower markets across North America, China, Europe and India.
- **Software and electronics -** We develop, supply and remanufacture control units, specialty sensors, power electronics, actuators and software for on-highway, off-highway and power generation applications. We primarily serve markets in the Americas, China, India and Europe.

Sales for our Components segment by business, including adjusted prior year balances for the changes noted above, were as follows:

In millions	Years ended December 31, 2023	2022	2021	Favorable/(Unfavorable) 2023 vs. 2022 Amount	Percent	2022 vs. 2021 Amount	Percent
Axles and brakes	**$ 4,822**	$ 1,879	$ —	$ 2,943	NM	$ 1,879	NM
Emission solutions	**3,835**	3,494	3,499	341	10 %	(5)	— %
Engine components	**2,189**	2,007	2,009	182	9 %	(2)	— %
Atmus	**1,629**	1,557	1,438	72	5 %	119	8 %
Automated transmissions	**714**	593	478	121	20 %	115	24 %
Software and electronics	**220**	206	241	14	7 %	(35)	(15)%
Total sales	**$13,409**	$ 9,736	$ 7,665	$ 3,673	38 %	$ 2,071	27 %

"NM" - not meaningful information

2023 vs. 2022

Sales

Components segment sales increased $3.7 billion across all businesses. The following were the primary drivers by business:

- Axles and brakes sales increased $2.9 billion mainly due to the Meritor acquisition on August 3, 2022.
- Emission solutions sales increased $341 million principally due to stronger demand in North America and China.

- Engine components sales increased $182 million primarily due to higher demand in China.

Segment EBITDA

Components segment EBITDA increased $494 million, mainly due to higher volumes (including sales of axles and brakes from the Meritor acquisition), favorable pricing, the absence of the Meritor acquisition and integration costs and lower freight costs, partially offset by higher compensation expenses.

Engine Segment Results

Financial data for the Engine segment was as follows:

				Favorable/(Unfavorable)			
	Years ended December 31,			2023 vs. 2022		2022 vs. 2021	
In millions	2023	2022	2021	Amount	Percent	Amount	Percent
External sales	**$ 8,874**	$ 8,199	$ 7,589	$ 675	8 %	$ 610	8 %
Intersegment sales	**2,810**	2,746	2,365	64	2 %	381	16 %
Total sales	**11,684**	10,945	9,954	739	7 %	991	10 %
Research, development and engineering expenses	**614**	506	399	(108)	(21)%	(107)	(27)%
Equity, royalty and interest income from investees	**251**	160 [(1)]	335	91	57 %	(175)	(52)%
Interest income	**19**	14	8	5	36 %	6	75 %
Russian suspension costs [(2)]	**—**	33 [(3)]	—	33	100 %	(33)	NM
Segment EBITDA	**1,630**	1,535	1,406	95	6 %	129	9 %
				Percentage Points		Percentage Points	
Segment EBITDA as a percentage of total sales	**14.0 %**	14.0 %	14.1 %	—		(0.1)	

"NM" - not meaningful information

(1) Includes a $28 million impairment of our joint venture with KAMAZ and $3 million of royalty charges as part of our costs associated with the indefinite suspension of our Russian operations. See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

(2) See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

(3) Includes $31 million of Russian suspension costs reflected in the equity, royalty and interest income from investees line above.

Sales for our Engine segment by market were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
				2023 vs. 2022		2022 vs. 2021	
In millions	2023	2022	2021	Amount	Percent	Amount	Percent
Heavy-duty truck	**$ 4,399**	$ 3,847	$ 3,328	$ 552	14 %	$ 519	16 %
Medium-duty truck and bus	**3,670**	3,460	2,777	210	6 %	683	25 %
Light-duty automotive	**1,762**	1,738	1,912	24	1 %	(174)	(9)%
Total on-highway	**9,831**	9,045	8,017	786	9 %	1,028	13 %
Off-highway	**1,853**	1,900	1,937	(47)	(2)%	(37)	(2)%
Total sales	**$ 11,684**	$ 10,945	$ 9,954	$ 739	7 %	$ 991	10 %
				Percentage Points		Percentage Points	
On-highway sales as percentage of total sales	**84 %**	83 %	81 %		1		2

Unit shipments by engine classification (including unit shipments to Power Systems and off-highway engine units included in their respective classification) were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
				2023 vs. 2022		2022 vs. 2021	
	2023	2022	2021	Amount	Percent	Amount	Percent
Heavy-duty	**141,900**	120,700	117,600	21,200	18 %	3,100	3 %
Medium-duty	**294,100**	283,600	273,800	10,500	4 %	9,800	4 %
Light-duty	**211,500**	227,600	273,300	(16,100)	(7)%	(45,700)	(17)%
Total unit shipments	**647,500**	631,900	664,700	15,600	2 %	(32,800)	(5)%

2023 vs. 2022

Sales

Engine segment sales increased $739 million across most markets. The following were the primary drivers by market:

- Heavy-duty truck sales increased $552 million principally due to higher demand, especially in North America (with shipments up 12 percent) and China.
- Medium-duty truck and bus sales increased $210 million mainly due to higher demand, especially in North America with medium-duty truck engine shipments up 11 percent.

The increases were partially offset by decreased off-highway sales of $47 million primarily due to lower demand in global agriculture markets.

Segment EBITDA

Engine segment EBITDA increased $95 million, primarily due to favorable pricing, partially offset by higher compensation expenses and unfavorable mix.

Distribution Segment Results

Financial data for the Distribution segment was as follows:

				Favorable/(Unfavorable)			
	Years ended December 31,			2023 vs. 2022		2022 vs. 2021	
In millions	**2023**	**2022**	**2021**	**Amount**	**Percent**	**Amount**	**Percent**
External sales	**$ 10,199**	$ 8,901	$ 7,742	$1,298	15 %	$1,159	15 %
Intersegment sales	**50**	28	30	22	79 %	(2)	(7)%
Total sales	**10,249**	8,929	7,772	1,320	15 %	1,157	15 %
Research, development and engineering expenses	**57**	52	48	(5)	(10)%	(4)	(8)%
Equity, royalty and interest income from investees	**97**	77	63	20	26 %	14	22 %
Interest income	**34**	16	7	18	NM	9	NM
Russian suspension costs [1]	**—**	54	—	54	100 %	(54)	NM
Segment EBITDA	**1,209**	888	731	321	36 %	157	21 %
				Percentage Points		Percentage Points	
Segment EBITDA as a percentage of total sales	**11.8 %**	9.9 %	9.4 %	1.9		0.5	

"NM" - not meaningful information

[1] See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

Sales for our Distribution segment by region, including adjusted prior year balances for the changes noted above, were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
				2023 vs. 2022		2022 vs. 2021	
In millions	**2023**	**2022**	**2021**	**Amount**	**Percent**	**Amount**	**Percent**
North America	**$ 7,081**	$ 5,948	$ 4,912	$ 1,133	19 %	$ 1,036	21 %
Asia Pacific	**1,096**	1,016	906	80	8 %	110	12 %
Europe	**853**	929	966	(76)	(8)%	(37)	(4)%
China	**430**	355	330	75	21 %	25	8 %
Africa and Middle East	**294**	251	278	43	17 %	(27)	(10)%
India	**270**	220	198	50	23 %	22	11 %
Latin America	**225**	210	182	15	7 %	28	15 %
Total sales	**$10,249**	$ 8,929	$ 7,772	$ 1,320	15 %	$ 1,157	15 %

Sales for our Distribution segment by product line were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
				2023 vs. 2022		2022 vs. 2021	
In millions	**2023**	**2022**	**2021**	**Amount**	**Percent**	**Amount**	**Percent**
Parts	**$ 4,071**	$ 3,818	$ 3,145	$ 253	7 %	$ 673	21 %
Power generation	**2,509**	1,774	1,762	735	41 %	12	1 %
Engines	**1,997**	1,776	1,499	221	12 %	277	18 %
Service	**1,672**	1,561	1,366	111	7 %	195	14 %
Total sales	**$10,249**	$ 8,929	$ 7,772	$ 1,320	15 %	$ 1,157	15 %

2023 vs. 2022

Sales

Distribution segment sales increased $1.3 billion. The primary driver was an increase in North American sales of $1.1 billion due to higher demand in all product lines, especially in power generation markets due to commercial and data center demand. The increase was partially offset by unfavorable foreign currency fluctuations, primarily the Australian dollar, Canadian dollar, Chinese renminbi and South African rand.

Segment EBITDA

Distribution segment EBITDA increased $321 million, primarily due to increased volumes and favorable mix, partially offset by higher compensation expenses.

Power Systems Segment Results

Financial data for the Power Systems segment was as follows:

	Years ended December 31,			Favorable/(Unfavorable) 2023 vs. 2022		2022 vs. 2021	
In millions	2023	2022	2021	Amount	Percent	Amount	Percent
External sales	**$ 3,125**	$ 2,951	$ 2,650	$ 174	6 %	$ 301	11 %
Intersegment sales	**2,548**	2,082	1,765	466	22 %	317	18 %
Total sales	**5,673**	5,033	4,415	640	13 %	618	14 %
Research, development and engineering expenses	**237**	240	234	3	1 %	(6)	(3)%
Equity, royalty and interest income from investees	**53**	43	56	10	23 %	(13)	(23)%
Interest income	**9**	7	5	2	29 %	2	40 %
Russian suspension costs [1]	**—**	19	—	19	100 %	(19)	NM
Segment EBITDA	**836**	596	496	240	40 %	100	20 %
				Percentage Points		Percentage Points	
Segment EBITDA as a percentage of total sales	**14.7 %**	11.8 %	11.2 %	2.9		0.6	

"NM" - not meaningful information

[1] See NOTE 22, "RUSSIAN OPERATIONS," to our Consolidated Financial Statements for additional information.

Sales for our Power Systems segment by product line were as follows:

	Years ended December 31,			Favorable/(Unfavorable) 2023 vs. 2022		2022 vs. 2021	
In millions	2023	2022	2021	Amount	Percent	Amount	Percent
Power generation	**$3,340**	$2,790	$2,515	$ 550	20 %	$ 275	11 %
Industrial	**1,854**	1,772	1,534	82	5 %	238	16 %
Generator technologies	**479**	471	366	8	2 %	105	29 %
Total sales	**$5,673**	$5,033	$4,415	$ 640	13 %	$ 618	14 %

2023 vs. 2022

Sales

Power Systems segment sales increased $640 million across all product lines. The following were the primary drivers by product line:

- Power generation sales increased $550 million mainly due to higher demand in North America, India, Asia Pacific and the Middle East.
- Industrial sales increased $82 million principally due to higher sales of whole goods, partially offset by lower parts sales, especially in global mining markets.

Segment EBITDA

Power Systems segment EBITDA increased $240 million, primarily due to favorable pricing and higher volumes, partially offset by higher compensation expenses.

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Accelera Segment Results

Financial data for the Accelera segment was as follows:

In millions	Years ended December 31, 2023	2022	2021	Favorable/(Unfavorable) 2023 vs. 2022 Amount	Percent	Favorable/(Unfavorable) 2022 vs. 2021 Amount	Percent
External sales	**$ 336**	$ 176	$ 108	$ 160	91 %	$ 68	63 %
Intersegment sales	**18**	22	8	(4)	(18)%	14	NM
Total sales	**354**	198	116	156	79 %	82	71 %
Research, development and engineering expenses	**203**	171	102	(32)	(19)%	(69)	(68)%
Equity, royalty and interest (loss) income from investees	**(15)**	(2)	2	(13)	NM	(4)	NM
Interest income	**2**	—	—	2	NM	—	— %
Segment EBITDA	**(443)**	(334)	(218)	(109)	(33)%	(116)	(53)%

"NM" - not meaningful information

Accelera segment sales increased 79 percent mainly due to incremental sales of central drive systems, e-axles and accessory systems since the acquisitions of Siemens' Commercial Vehicle Propulsion business and Meritor's electric powertrain business, as well as improved electrified components sales.

2024 OUTLOOK

Our outlook reflects the following positive trends and challenges to our business that could impact our revenue and earnings potential in 2024.

Positive Trends

- We expect demand for medium-duty trucks in North America to remain strong.
- We believe market demand for trucks in India will continue to be strong.
- We expect demand within our Power Systems business to remain strong, including the power generation, mining and marine markets.
- We anticipate demand in our aftermarket business will continue to be robust, driven primarily by strong demand in our Engine business and Power Systems business. We expect to be largely through the inventory management efforts and destocking that happened throughout the industry in the second half of 2023.
- We expect demand for trucks in China to remain stable or improve in 2024.

Challenges

- We expect demand for heavy-duty trucks in North America to weaken modestly, particularly in the second half of 2024.
- Continued increases in material and labor costs, as well as other inflationary pressures, could negatively impact earnings.
- The financial implications resulting from our Agreement in Principle will negatively impact our liquidity in 2024 and will result in incremental interest expense for debt utilized in funding the civil penalty.
- We expect the ongoing separation of Atmus, our filtration business, into a stand-alone company will continue to result in incremental expenses.

LIQUIDITY AND CAPITAL RESOURCES

Key Working Capital and Balance Sheet Data

We fund our working capital with cash from operations and short-term borrowings, including commercial paper, when necessary. Various assets and liabilities, including short-term debt, can fluctuate significantly from month to month depending on short-term liquidity needs. As a result, working capital is a prime focus of management's attention. Working capital and balance sheet measures are provided in the following table:

Dollars in millions	December 31, 2023	December 31, 2022
Working capital [(1)]	**$ 2,295**	$ 3,030
Current ratio	**1.18**	1.27
Accounts and notes receivable, net	**$ 5,583**	$ 5,202
Days' sales in receivables	**58**	60
Inventories	**$ 5,677**	$ 5,603
Inventory turnover	**4.5**	4.2
Accounts payable (principally trade)	**$ 4,260**	$ 4,252
Days' payable outstanding	**62**	60
Total debt	**$ 6,696**	$ 7,855
Total debt as a percent of total capital	**40.3 %**	44.1 %

[(1)] Working capital includes cash and cash equivalents.

Cash Flows

Cash and cash equivalents were impacted as follows:

In millions	Years ended December 31, 2023	2022	2021	Change 2023 vs. 2022	Change 2022 vs. 2021
Net cash provided by operating activities	**$3,966**	$ 1,962	$ 2,256	$ 2,004	$ (294)
Net cash used in investing activities	**(1,643)**	(4,172)	(873)	2,529	(3,299)
Net cash (used in) provided by financing activities	**(2,177)**	1,669	(2,227)	(3,846)	3,896
Effect of exchange rate changes on cash and cash equivalents	**(68)**	50	35	(118)	15
Net increase (decrease) in cash and cash equivalents	**$ 78**	$ (491)	$ (809)	$ 569	$ 318

2023 vs. 2022

Net cash provided by operating activities increased $2.0 billion, primarily due to lower working capital requirements of $3.4 billion, partially offset by lower net income of $1.3 billion. The lower working capital requirements resulted in a cash inflow of $2.4 billion compared to a cash outflow of $1.0 billion in the comparable period in 2022, mainly due to increased accrued expenses (resulting from the Agreement in Principle and higher variable compensation accruals) and favorable changes in inventories and accounts receivable, partially offset by unfavorable changes in accounts payable.

Net cash used in investing activities decreased $2.5 billion, principally due to lower acquisition activity of $2.9 billion, partially offset by higher capital expenditures of $297 million.

Net cash used in financing activities increased $3.8 billion, primarily due to higher net payments of commercial paper of $3.0 billion and lower proceeds from borrowings of $1.2 billion, partially offset by lower payments on borrowings and finance lease obligations of $414 million and the absence of repurchases of common stock of $374 million.

The effect of exchange rate changes on cash and cash equivalents decreased $118 million, primarily due to unfavorable fluctuations in the British pound, partially offset by the Chinese renminbi.

2022 vs. 2021

For prior year liquidity comparisons see the Liquidity and Capital Resources section of our 2022 Form 10-K.

Sources of Liquidity

We generate significant ongoing operating cash flow. Cash provided by operations is our principal source of liquidity with $4.0 billion provided in 2023. At December 31, 2023, our sources of liquidity included:

	December 31, 2023			
In millions	**Total**	**U.S.**	**International**	**Primary location of international balances**
Cash and cash equivalents	$ 2,179	$ 971	$ 1,208	Australia, Belgium, China, Singapore Canada, Mexico
Marketable securities [1]	562	84	478	India
Total	$ 2,741	$ 1,055	$ 1,686	
Available credit capacity				
Revolving credit facilities [2]	$ 2,504			
Atmus revolving credit facility [3]	$ 400			
International and other uncommitted domestic credit facilities	$ 393			

[1] The majority of marketable securities could be liquidated into cash within a few days.

[2] The five-year credit facility for $2.0 billion and the 364-day credit facility for $2.0 billion, maturing August 2026 and June 2024, respectively, are maintained primarily to provide backup liquidity for our commercial paper borrowings and general corporate purposes. At December 31, 2023, we had $1.496 billion of commercial paper outstanding, which effectively reduced our available capacity under our revolving credit facilities to $2.504 billion.

[3] In February 2023, Atmus entered into a $400 million revolving credit facility, and at December 31, 2023, they had no outstanding borrowings under this facility.

Cash, Cash Equivalents and Marketable Securities

A significant portion of our cash flows are generated outside the U.S. We manage our worldwide cash requirements considering available funds among the many subsidiaries through which we conduct our business and the cost effectiveness with which those funds can be accessed. As a result, we do not anticipate any local liquidity restrictions to preclude us from funding our operating needs with local resources.

If we distribute our foreign cash balances to the U.S. or to other foreign subsidiaries, we could be required to accrue and pay withholding taxes, for example, if we repatriated cash from certain foreign subsidiaries whose earnings we asserted are completely or partially permanently reinvested. Foreign earnings for which we assert permanent reinvestment outside the U.S. consist primarily of earnings of our China, India, Canada (including underlying subsidiaries) and Netherlands domiciled subsidiaries. At present, we do not foresee a need to repatriate any earnings for which we assert permanent reinvestment. However, to help fund cash needs of the U.S. or other international subsidiaries as they arise, we repatriate available cash from certain foreign subsidiaries whose earnings are not permanently reinvested when it is cost effective to do so.

IPO of Atmus

On May 23, 2023, in connection with the Atmus IPO, Cummins issued approximately $350 million of commercial paper with certain lenders. On May 26, 2023, Atmus shares began trading on the New York Stock Exchange under the symbol "ATMU." The IPO was completed on May 30, 2023, whereby Cummins exchanged 19.5 percent (approximately 16 million shares) of its ownership in Atmus, at $19.50 per share, to retire $299 million of the commercial paper as proceeds from the offering through a non-cash transaction. In exchange for the filtration business, Atmus also transferred to Cummins consideration of approximately $650 million. The commercial paper issued and retired through the IPO proceeds, coupled with the $650 million received, was used for the retirement of our historical debt and payment of dividends. See NOTE 23, "FORMATION OF ATMUS AND IPO," to the Consolidated Financial Statements for additional information.

Debt Facilities and Other Sources of Liquidity

On June 5, 2023, we entered into an amended and restated 364-day credit agreement that allows us to borrow up to $2.0 billion of unsecured funds at any time prior to June 3, 2024. This credit agreement amended and restated the prior $1.5 billion 364-day credit facility that was scheduled to mature on August 16, 2023. In connection with the 364-day credit agreement, effective June 5, 2023, we terminated our $500 million incremental 364-day credit agreement dated August 17, 2022.

Our committed credit facilities provide access up to $4.0 billion, including our $2.0 billion 364-day facility that expires June 3, 2024, and our $2.0 billion five-year facility that expires on August 18, 2026. These revolving credit facilities are maintained primarily to provide backup liquidity for our commercial paper borrowings and general corporate purposes. We intend to maintain credit facilities at the current or higher aggregate amounts by renewing or replacing these facilities at or before expiration. The credit agreements include various financial covenants, including, among others, maintaining a net debt to capital ratio of no more than 0.65 to 1.0. At December 31, 2023, our net leverage ratio was 0.26 to 1.0. There were no outstanding borrowings under these facilities at December 31, 2023.

Our committed credit facilities provide access up to $4.0 billion of unsecured, short-term promissory notes (commercial paper) pursuant to the Board authorized commercial paper programs. These programs facilitate the private placement of unsecured short-term debt through third-party brokers. We intend to use the net proceeds from the commercial paper borrowings for acquisitions and general corporate purposes. The total combined borrowing capacity under the revolving credit facilities and commercial paper programs should not exceed $4.0 billion. At December 31, 2023, we had $1.5 billion of commercial paper outstanding, which effectively reduced our available capacity under our revolving credit facilities to $2.5 billion. See NOTE 13, "DEBT," to our Consolidated Financial Statements for additional information**.**

In September 2023, we entered into a series of interest rate swaps with a total notional value of $500 million in order to trade a portion of the floating rate into a fixed rate on our term loan, due in 2025. The maturity date of the interest rate swaps is August 1, 2025. We designated the swaps as cash flow hedges. The gains and losses on these derivative instruments are initially recorded in other comprehensive income and reclassified into earnings as interest expense in the Consolidated Financial Statements as each interest payment is accrued.

In 2021, we entered into a series of interest rate swaps to effectively convert our $500 million senior notes, due in 2025, from a fixed rate of 0.75 percent to a floating rate equal to the three-month LIBOR plus a spread. We also entered into a series of interest rate swaps to effectively convert $765 million of our $850 million senior notes, due in 2030, from a fixed rate of 1.50 percent to a floating rate equal to the three-month LIBOR plus a spread. The fallback protocol in our derivative agreements allowed for a transition from LIBOR to Secured Overnight Financing Rate (SOFR) in 2023. The swaps were designated, and are accounted for, as fair value hedges. In March 2023, we settled a portion of our 2021 interest rate swaps with a notional amount of $100 million. The $7 million loss on settlement will be amortized over the remaining term of the related debt.

In 2019, we entered into $350 million of interest rate lock agreements, and in 2020 we entered into an additional $150 million of lock agreements to reduce the variability of the cash flows of the interest payments on a total of $500 million of fixed rate debt originally forecast to be issued in 2023 to replace our senior notes at maturity. In 2022, we settled certain rate lock agreements with notional amounts totaling $150 million for $49 million in cash. In 2023, we settled all remaining rate lock agreements with notional amounts totaling $350 million for $101 million. The majority of the $150 million of gains on settlements will remain in other comprehensive income and will be amortized over the term of the debt anticipated to be issued in early 2024.

On February 15, 2023, certain of our subsidiaries entered into an amendment to the $1.0 billion credit agreement (Credit Agreement), consisting of a $400 million revolving credit facility and a $600 million term loan facility, in anticipation of the separation of our filtration business, extending the Credit Agreement termination date from March 30, 2023, to June 30,

2023. On May 26, 2023, Atmus drew down the entire $600 million term loan facility and borrowed $50 million under the revolving credit facility for use as partial consideration for the filtration business. Borrowings under the Credit Agreement mature in September 2027 (with quarterly payments on the term loan beginning in September 2024) and bear interest at varying rates, depending on the type of loan and, in some cases, the rates of designated benchmarks and the applicable borrower’s election. Generally, U.S. dollar-denominated loans bear interest at adjusted-term SOFR (which includes a 0.10 percent credit spread adjustment to term SOFR) for the applicable interest period plus a rate ranging from 1.125 percent to 1.75 percent. The Credit Agreement contains customary events of default and financial and other covenants, including maintaining a net leverage ratio of 4.0 to 1.0 and a minimum interest coverage ratio of 3.0 to 1.0. At December 31, 2023, there were no outstanding borrowings under the revolving credit facility and $600 million outstanding under the term loan facility.

As a well-known seasoned issuer, we filed an automatic shelf registration for an undetermined amount of debt and equity securities with the SEC on February 8, 2022. Under this shelf registration we may offer, from time to time, debt securities, common stock, preferred and preference stock, depositary shares, warrants, stock purchase contracts and stock purchase units.

Supply Chain Financing

We currently have supply chain financing programs with financial intermediaries, which provide certain vendors the option to be paid by financial intermediaries earlier than the due date on the applicable invoice. When a vendor utilizes the program and receives an early payment from a financial intermediary, they take a discount on the invoice. We then pay the financial intermediary the face amount of the invoice on the original due date, which generally have 60 to 90 day payment terms. The maximum amount that we could have outstanding under the program was $512 million at December 31, 2023. We do not reimburse vendors for any costs they incur for participation in the program, their participation is completely voluntary and there are no assets pledged as security or other forms of guarantees provided for the committed payment to the finance provider or intermediary. As a result, all amounts owed to the financial intermediaries are presented as accounts payable in our Consolidated Balance Sheets. Amounts due to the financial intermediaries reflected in accounts payable at December 31, 2023, were $199 million. See NOTE 1, "SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES" to our Consolidated Financial Statements for additional information.

Uses of Cash

Agreement in Principle

In December 2023, we announced that we reached the Agreement in Principle with the EPA, CARB, DOJ and CA AG to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S. As part of the Agreement in Principle, among other things, we agreed to pay civil penalties, complete recall requirements, undertake mitigation projects, provide extended warranties, undertake certain testing, take certain corporate compliance measures and make certain payments. Failure to comply with the terms and conditions of the Agreement in Principle will subject us to further stipulated penalties. We recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. This charge was in addition to the previously announced charges of $59 million for the recalls of model years 2013 through 2018 RAM 2500 and 3500 trucks and model years 2016 through 2019 Titan trucks. Of this amount, $1.938 billion relates to payments that are expected to be made in 2024. See NOTE 2, "AGREEMENT IN PRINCIPLE," to our Consolidated Financial Statements for additional information.

Dividends

Total dividends paid to common shareholders in 2023, 2022 and 2021 were $921 million, $855 million and $809 million, respectively. Declaration and payment of dividends in the future depends upon our income and liquidity position, among other factors, and is subject to declaration by the Board, who meets quarterly to consider our dividend payment. We expect to fund dividend payments with cash from operations.

In July 2023, the Board authorized an increase to our quarterly dividend of approximately 7 percent from $1.57 per share to $1.68 per share. Cash dividends per share paid to common shareholders and the Board authorized increases for the last three years were as follows:

	Quarterly Dividends		
	2023	**2022**	**2021**
First quarter	**$ 1.57**	$ 1.45	$ 1.35
Second quarter	**1.57**	1.45	1.35
Third quarter	**1.68**	1.57	1.45
Fourth quarter	**1.68**	1.57	1.45
Total	**$ 6.50**	$ 6.04	$ 5.60

Capital Expenditures

Capital expenditures were $1.2 billion, $916 million and $734 million in 2023, 2022 and 2021, respectively. We continue to invest in new product lines and targeted capacity expansions. We plan to spend an estimated $1.2 billion to $1.3 billion in 2024 on capital expenditures with over 65 percent of these expenditures expected to be invested in North America.

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Acquisitions

Acquisitions for the year ended December 31, 2023, were as follows:

Entity Acquired (Dollars in millions)	Date of Acquisition	Additional Percent Interest Acquired	Payments to Former Owners	Acquisition Related Debt Retirements	Total Purchase Consideration
Cummins France SA	**10/31/23**	**100%**	**$ 25**	**$ 5**	**$ 30**
Faurecia	**10/02/23**	**100%**	**210**	**—**	**210** [1]
Hydrogenics Corporation (Hydrogenics)	**06/29/23**	**19%**	**287**	**48**	**335** [2]
Teksid Hierro de Mexico, S.A. de C.V. (Teksid MX)	**04/03/23**	**100%**	**143**	**—**	**143** [3]

[1] Total purchase consideration included $30 million for the settlement of accounts payable that were treated as an operating cash outflow.

[2] Hydrogenics entered into three non-interest-bearing promissory notes with $175 million paid on July 31, 2023, and the remaining $160 million due in three installments through 2025.

[3] Total purchase consideration included $32 million for the settlement of accounts payable that were treated as an operating cash outflow.

See NOTE 24, "ACQUISITIONS," to our Consolidated Financial Statements for additional information.

Current Maturities of Short and Long-Term Debt

We had $1.5 billion of commercial paper outstanding at December 31, 2023, that matures in less than one year. The maturity schedule of our existing long-term debt requires significant cash outflows in 2025 when our term loan and 0.75 percent senior notes are due. Required annual long-term debt principal payments range from $67 million to $1.8 billion over the next five years. We intend to retain our strong investment credit ratings. See NOTE 13, "DEBT," to the Consolidated Financial Statements for additional information.

Pensions

Our global pension plans, including our unfunded and non-qualified plans, were 113 percent funded at December 31, 2023. Our U.S. defined benefit plans (qualified and non-qualified), which represented approximately 69 percent of the worldwide pension obligation, were 113 percent funded, and our U.K. defined benefit plans were 113 percent funded at December 31, 2023. The funded status of our pension plans is dependent upon a variety of variables and assumptions including return on invested assets, market interest rates and levels of voluntary contributions to the plans. In 2023, the investment gain on our U.S. pension trusts was 6.81 percent, while our U.K. pension trusts' loss was 4.37 percent. To better hedge its liabilities, our U.K. pension plan sold a substantial portion of its private markets assets at a discount, which detracted from the investment performance.

We sponsor funded and unfunded domestic and foreign defined benefit pension plans. Contributions to the U.S. and U.K. plans were as follows:

	Years ended December 31,		
In millions	2023	2022	2021
Defined benefit pension contributions	**$ 115**	$ 53	$ 78
Defined contribution pension plans	**130**	110	92

We anticipate making total contributions of approximately $67 million to our global defined benefit pension plans in 2024. Expected contributions to our defined benefit pension plans in 2024 will meet or exceed the current funding requirements.

Stock Repurchases

In December 2021, the Board authorized the acquisition of up to $2.0 billion of additional common stock upon completion of the $2.0 billion repurchase plan authorized in 2019. For the year ended December 31, 2023, we did not make any repurchases of common stock. The dollar value remaining available for future purchases under the 2019 program at December 31, 2023, was $218 million.

We intend to repurchase outstanding shares from time to time to enhance shareholder value.

Future Uses of Cash

A summary of our contractual obligations and other commercial commitments at December 31, 2023, are as follows:

Contractual Cash Obligations	**Payments Due by Period**	
In millions	**Current**	**Long-Term**
Long-term debt and finance lease obligations [1]	$ 326	$ 6,715
Operating leases [1]	155	421
Capital expenditures	562	—
Purchase commitments for inventory	1,190	4
Other purchase commitments	620	299
Transitional tax liability	82	103
Other postretirement benefits	20	123
International and other domestic letters of credit	76	48
Performance and excise bonds	40	138
Guarantees and other commitments	29	27
Total	$ 3,100	$ 7,878

[1] Includes principal payments and expected interest payments based on the terms of the obligations.

The contractual obligations reported above exclude our unrecognized tax benefits of $330 million as of December 31, 2023, which includes $170 million of current tax liabilities and $160 million of long-term deferred tax liabilities. We are not able to reasonably estimate the period in which cash outflows relating to uncertain tax contingencies could occur. See NOTE 5, "INCOME TAXES," to the Consolidated Financial Statements for additional information.

Credit Ratings

Our rating and outlook from each of the credit rating agencies as of the date of filing are shown in the table below:

Credit Rating Agency [1]	Long-Term Senior Debt Rating	Short-Term Debt Rating	Outlook
Standard & Poor's Rating Services	A	A1	Stable
Moody's Investors Service, Inc.	A2	P1	Stable

[1] Credit ratings are not recommendations to buy, are subject to change, and each rating should be evaluated independently of any other rating. In addition, we undertake no obligation to update disclosures concerning our credit ratings, whether as a result of new information, future events or otherwise.

Management's Assessment of Liquidity

Our financial condition and liquidity remain strong. Our solid balance sheet and credit ratings enable us to have ready access to credit and the capital markets. We assess our liquidity in terms of our ability to generate adequate cash to fund our operating, investing and financing activities. We believe our access to capital markets, our existing cash and marketable securities, operating cash flow and revolving credit facilities provide us with the financial flexibility needed to make payments required by the Agreement in Principle, targeted capital expenditures, dividend payments, debt service obligations, projected pension obligations, common stock repurchases and fund acquisitions through 2024 and beyond. We continue to generate significant cash from operations and maintain access to our revolving credit facilities and commercial paper programs as noted above.

We anticipate making $1.938 billion of the payments required by the Agreement in Principle during 2024 through the use of our existing liquidity and access to debt markets.

APPLICATION OF CRITICAL ACCOUNTING ESTIMATES

A summary of our significant accounting policies is included in NOTE 1, "SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES," of our Consolidated Financial Statements which discusses accounting policies that we selected from acceptable alternatives.

Our Consolidated Financial Statements are prepared in accordance with generally accepted accounting principles in the U.S. which often requires management to make judgments, estimates and assumptions regarding uncertainties that affect the reported amounts presented and disclosed in the financial statements. Management reviews these estimates and assumptions based on historical experience, changes in business conditions and other relevant factors they believe to be reasonable under the circumstances. In any given reporting period, our actual results may differ from the estimates and assumptions used in preparing our Consolidated Financial Statements.

Critical accounting estimates are defined as follows: the estimate requires management to make assumptions about matters that were highly uncertain at the time the estimate was made; different estimates reasonably could have been used; or if changes in the estimate are reasonably likely to occur from period to period and the change would have a material impact on our financial condition or results of operations. Our senior management has discussed the development and selection of our accounting policies, related accounting estimates and the disclosures set forth below with the Audit Committee of the Board. We believe our critical accounting estimates include estimating liabilities for warranty programs, fair value of intangible assets, assessing goodwill impairments, accounting for income taxes and pension benefits.

Warranty Programs

We estimate and record a liability for base warranty programs at the time our products are sold. Our estimates are based on historical experience and reflect management's best estimates of costs to be incurred over the warranty period. Adjustments may be required to the liability when actual or projected costs differ. Variations in component failure rates, repair costs and the point of failure within the product life cycle are key drivers that impact our periodic re-assessment of the warranty liability. Future events and circumstances related to these factors could materially change our estimates and require adjustments to our liability. New product launches require a greater use of judgment in developing estimates until historical experience becomes available. We generally estimate warranty accruals for new products using a methodology that includes the preceding product's warranty history and a multiplicative factor derived from prior product launch experience and new product assessments until sufficient new product data is available for warranty estimation. We then use a blend of actual new product experience and preceding product historical experience for several subsequent quarters and new product specific experience thereafter. Product specific experience is typically available five or six quarters after product launch, with a clear experience trend evident eight quarters after launch. As a result of the uncertainty surrounding the nature and frequency of product recall programs, the liability for such programs is recorded when management commits to a recall action or when a recall becomes probable and estimable. NOTE 14, "PRODUCT WARRANTY LIABILITY," to our Consolidated Financial Statements contains a summary of the activity in our warranty liability account for 2023, 2022 and 2021 including adjustments to pre-existing warranties.

Fair Value of Intangible Assets

We make strategic acquisitions that may have a material impact on our consolidated results of operations or financial position. We allocate the purchase price of acquired businesses to the assets acquired and liabilities assumed in the transaction at their estimated fair values. The determination of the fair value of intangible assets, which represent a significant portion of the purchase price in many of our acquisitions can be complex and requires the use of significant judgment with regard to (i) the fair value and (ii) the period and the method by which the intangible asset will be amortized. We use information available to us to make fair value determinations and engage independent valuation specialists, when necessary, to assist in the fair value determination of significant acquired intangibles. We estimate the fair value of acquisition-related intangible assets principally based on projections of cash flows that will arise from identifiable intangible assets of acquired businesses, which includes estimates of discount rates, revenue growth rates, EBITDA, royalty rates, customer attrition rates, customer renewal rates and technology obsolesce rates. The projected cash flows are discounted to determine the present value of the assets at the dates of acquisition. Although we believe the projections, assumptions and estimates made were reasonable and appropriate, these estimates require significant judgment by management, are inherently uncertain and subject to refinement. During the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Any adjustments subsequent to the measurement period are recorded to our consolidated statements of income. See NOTE 24, "ACQUISITIONS," to our Consolidated Financial Statements for additional information about our recent business combinations.

Goodwill Impairment

We are required to make certain subjective and complex judgments in assessing whether a goodwill impairment event has occurred, including assumptions and estimates used to determine the fair value of our reporting units. We test for goodwill impairment at the reporting unit level and our reporting units are the operating segments or the components of operating segments that constitute businesses for which discrete financial information is available and is regularly reviewed by management.

We have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value as a basis for determining whether it is necessary to perform an annual quantitative goodwill impairment test. We have elected this option on certain reporting units. The following events and circumstances are considered when evaluating whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount:

- Macroeconomic conditions, such as a deterioration in general economic conditions, fluctuations in foreign exchange rates and/or other developments in equity and credit markets;
- Industry and market considerations, such as a deterioration in the environment in which an entity operates, material loss in market share and significant declines in product pricing;
- Cost factors, such as an increase in raw materials, labor or other costs;
- Overall financial performance, such as negative or declining cash flows or a decline in actual or forecasted revenue;
- Other relevant entity-specific events, such as material changes in management or key personnel and
- Events affecting a reporting unit, such as a change in the composition or carrying amount of its net assets including acquisitions and dispositions.

The examples noted above are not all-inclusive, and we consider other relevant events and circumstances that affect the fair value of a reporting unit in determining whether to perform the quantitative goodwill impairment test.

Our goodwill recoverability assessment is based on our annual strategic planning process. This process includes an extensive review of expectations for the long-term growth of our businesses and forecasted future cash flows. In order to determine the valuation of our reporting units, we use either the market approach or the income approach using a discounted cash flow model. Our income approach method uses a discounted cash flow model in which cash flows anticipated over several periods, plus a terminal value at the end of that time horizon, are discounted to their present value using an appropriate rate of return. Our estimates are based upon our historical experience, our current knowledge from our commercial relationships and available external information about future trends.

The discounted cash flow model requires us to make projections of revenue, gross margin, operating expenses, working capital investment and fixed asset additions for the reporting units over a multi-year period. Additionally, management must estimate a weighted-average cost of capital, which reflects a market rate, for each reporting unit for use as a discount rate. The discounted cash flows are compared to the carrying value of the reporting unit and, if less than the carrying value, the difference is recorded as a goodwill impairment loss. In addition, we also perform sensitivity analyses to determine how much our forecasts can fluctuate before the fair value of a reporting unit would be lower than its carrying amount. Future changes in the judgments, assumptions and estimates that are used in our goodwill impairment testing, including discount rates or future operating results and related cash flow projections, could result in significantly different estimates of the fair values in the future. An increase in discount rates, a reduction in projected cash flows or a combination of the two could lead to a reduction in the estimated fair values, which may result in impairment charges that could materially affect our financial statements in any given year. We perform the goodwill impairment assessment as of the end of our fiscal third quarter.

While none of our reporting units recorded a goodwill impairment in 2023, we have two reporting units with material goodwill balances where the estimated fair value does not significantly exceed the carrying value, both of which are in our Components segment. Our automated transmissions reporting unit (consisting solely of our joint venture with Eaton) has an estimated fair value that exceeds its carrying amount of $1.1 billion by approximately 7 percent. Total goodwill in this reporting unit is $544 million at December 31, 2023. We valued this reporting unit using an income approach based on its expected future cash flows. The critical assumptions that factored into the valuation are the projections of revenue and gross margin of the business as well as the discount rate used to present value these future cash flows. A 50 basis point increase in the discount rate would result in a 5 percent decline in the fair value of the reporting unit. Our axles and brakes reporting unit, which consists of the legacy business acquired from Meritor in August 2022, has an estimated fair value that exceeds its carrying amount of $4.2 billion by approximately 12 percent. Total goodwill in this reporting unit is $764 million at December 31, 2023. We valued this reporting unit using an income approach based on future cash flows. The critical assumptions that factored into the valuation are the projections of revenue and gross margin of the business as well as the discount rate used to present value these future cash flows. A 50 basis point increase in the discount rate would result in a 5 percent decline in the fair value of the reporting unit.

Accounting for Income Taxes

We determine our income tax expense using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Future tax benefits of net operating loss and credit carryforwards are also recognized as deferred tax assets. We evaluate the recoverability of our deferred tax assets each quarter by assessing the likelihood of future profitability and available tax planning strategies that could be implemented to realize our net deferred tax assets. At December 31, 2023, we recorded a net deferred tax asset of $552 million. The net deferred tax assets included $881 million for the value of net operating loss and credit carryforwards. A valuation allowance of $789 million was recorded to reduce the tax assets to the net value management believed was more likely than not to be realized. In the event our operating performance deteriorates, future assessments could conclude that a larger valuation allowance will be needed to further reduce the deferred tax assets.

In addition, we operate within multiple taxing jurisdictions and are subject to tax audits in these jurisdictions. These audits can involve complex issues, which may require an extended period of time to resolve. We accrue for the estimated additional tax and interest that may result from tax authorities disputing uncertain tax positions. We believe we made adequate provisions for income taxes for all years that are subject to audit based upon the latest information available. A more complete description of our income taxes and the future benefits of our net operating loss and credit carryforwards is disclosed in NOTE 5, "INCOME TAXES," to our Consolidated Financial Statements.

Pension Benefits

We sponsor a number of pension plans globally, with the majority of assets in the U.S. and the U.K. In the U.S. and the U.K., we have major defined benefit plans that are separately funded. We account for our pension programs in accordance with employers' accounting for defined benefit pension plans, which requires that amounts recognized in financial statements be determined using an actuarial basis. As a result, our pension benefit programs are based on a number of statistical and judgmental assumptions that attempt to anticipate future events and are used in calculating the expense and liability related to our plans each year at December 31. These assumptions include discount rates used to value liabilities, assumed rates of return on plan assets, future compensation increases, inflation, employee turnover rates, actuarial assumptions relating to retirement age, mortality rates and participant withdrawals. The actuarial assumptions we use may differ significantly from actual results due to changing economic conditions, participant life span and withdrawal rates. These differences may result in a material impact to the amount of net periodic pension cost to be recorded in our Consolidated Financial Statements in the future.

The expected long-term return on plan assets is used in calculating the net periodic pension cost. We considered several factors in developing our expected rate of return on plan assets. The long-term rate of return considers historical returns and expected returns on current and projected asset allocations. Projected returns are based primarily on broad, publicly traded passive fixed income and equity indices and forward-looking estimates of the value added by active investment management. At December 31, 2023, based upon our target asset allocations, it is anticipated that our U.S. investment policy will generate an average annual return over the 30-year projection period equal to or in excess of 7 percent, including the additional positive returns expected from active investment management.

The one-year return for our U.S. plans was a 6.81 percent gain for 2023. Our U.S. plan assets averaged annualized returns of 6.50 percent over the prior ten years and resulted in approximately $223 million of actuarial losses in accumulated other comprehensive loss (AOCL) in the same period. Based on the historical returns and forward-looking return expectations for capital markets, as plan assets continue to be de-risked, consistent with our investment policy, we believe our investment return assumption of 7.25 percent in 2024 for U.S. pension assets is reasonable and attainable.

The methodology used to determine the rate of return on pension plan assets in the U.K. was based on establishing an equity-risk premium over current long-term bond yields adjusted based on target asset allocations. At December 31, 2023, based upon our target asset allocations, it is anticipated that our U.K. investment policy will generate an average annual return over the 20-year projection period equal to or in excess of 5 percent. The one-year return for our U.K. plans was a 4.37 percent loss for 2023. We generated average annualized returns of 1.25 percent over ten years, resulting in approximately $532 million of actuarial losses in AOCL. Our strategy with respect to our investments in pension plan assets is to be invested with a long-term outlook. Based on the historical returns and forward-looking return expectations, we believe that an investment return assumption of 5.00 percent in 2024 for U.K. pension assets is reasonable and attainable.

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Our target allocation for 2024 and pension plan asset allocations, at December 31, 2023 and 2022 are as follows:

	U.S. Plan			U.K. Plan		
	Target Allocation	Percentage of Plan Assets at December 31,		Target Allocation	Percentage of Plan Assets at December 31,	
Investment description	2024	2023	2022 [1]	2024	2023	2022 [1]
Liability matching	**71.0 %**	**71.0 %**	70.0 %	**80.0 %**	**80.8 %**	48.0 %
Risk seeking	**29.0 %**	**29.0 %**	30.0 %	**20.0 %**	**19.2 %**	52.0 %
Total	**100.0 %**	**100.0 %**	100.0 %	**100.0 %**	**100.0 %**	100.0 %

[1] Pension plan assets allocations for 2022 exclude Meritor. The Meritor U.S. plan asset allocations at December 31, 2022, were 100 percent risk seeking. The Meritor U.K. plan asset allocations at December 31, 2022, were 70 percent liability matching and 30 percent risk seeking. See NOTE 24, "ACQUISITIONS," to the Consolidated Financial Statements for additional information.

The differences between the actual return on plan assets and expected long-term return on plan assets are recognized in the asset value used to calculate net periodic cost over five years. The table below sets forth our expected rate of return for 2024 and the expected return assumptions used to develop our pension cost for the period 2021-2023.

	Long-term Expected Return Assumptions			
	2024	2023	2022	2021
U.S. plans	**7.25 %**	**7.00 %**	6.50 %	6.25 %
U.K. plans	**5.00 %**	**5.00 %**	4.01 %	4.00 %

Pension accounting offers various acceptable alternatives to account for the differences that eventually arise between the estimates used in the actuarial valuations and the actual results. It is acceptable to delay or immediately recognize these differences. Under the delayed recognition alternative, changes in pension obligations (including those resulting from plan amendments) and changes in the value of assets set aside to meet those obligations are not recognized in net periodic pension cost as they occur but are recognized initially in AOCL and subsequently amortized as components of net periodic pension cost systematically and gradually over future periods. In addition to this approach, we may also adopt immediate recognition of actuarial gains or losses. Immediate recognition introduces volatility in financial results. We have chosen to delay recognition and amortize actuarial differences over future periods. If we adopted the immediate recognition approach, we would record a loss of $1.1 billion ($0.8 billion after-tax) from cumulative actuarial net losses for our U.S. and U.K. pension plans.

The difference between the expected return and the actual return on plan assets is deferred from recognition in our results of operations and under certain circumstances, such as when the difference exceeds 10 percent of the greater of the market value of plan assets or the projected benefit obligation, the difference is amortized over future years of service. This is also true of changes to actuarial assumptions. Under the delayed recognition alternative, the actuarial gains and losses are recognized and recorded in AOCL. As our losses related to the U.S. and U.K. pension plans exceed 10 percent of their respective plan assets, the excess is amortized over the average remaining service lives of participating employees. Net actuarial losses decreased our shareholders' equity by $329 million after-tax in 2023. The loss is primarily due to unfavorable asset returns, partially offset by higher discount rates.

The table below sets forth the net periodic pension cost for the years ended December 31 and our expected cost for 2024.

In millions	**2024**	**2023**	**2022**	**2021**
Net periodic pension cost	**$ 33**	$ 1	$ 19	$ 78

We expect 2024 net periodic pension cost to increase compared to 2023, primarily due to unfavorable asset returns in the U.K., lower discount rates in the U.S. and U.K. and increased headcount from recent acquisitions, partially offset by a higher expected rate of return on assets in the U.S. The decrease in net periodic pension cost in 2023 compared to 2022 was primarily due to the full year benefit of the Meritor pension plans added during the acquisition and a higher estimated return on assets in the U.S. and U.K. The decrease in net periodic pension cost in 2022 compared to 2021 was due to higher discount rates in the U.S. and U.K. and favorable actuarial experience in the U.S., partially offset by a lower expected rate of return in the U.K.

The weighted-average discount rates used to develop our net periodic pension cost are set forth in the table below.

	Discount Rates			
	2024	**2023**	**2022**	**2021**
U.S. plans	**5.15 %**	**5.55 %**	3.31 %	2.62 %
U.K. plans	**4.72 %**	**4.99 %**	2.26 %	1.50 %

The discount rate enables us to state expected future cash payments for benefits as a present value on the measurement date. The guidelines for setting this rate suggest the use of a high-quality corporate bond rate. We used bond information provided by Moody's Investor Services, Inc. and Standard & Poor's Rating Services. All bonds used to develop our hypothetical portfolio in the U.S. and U.K. were deemed high-quality, non-callable bonds (Aa or better) at December 31, 2023, by at least one of the bond rating agencies.

Our model called for projected payments until near extinction for the U.S. and the U.K. For both countries, our model matches the present value of the plan's projected benefit payments to the market value of the theoretical settlement bond portfolio. A single equivalent discount rate is determined to align the present value of the required cash flow with the value of the bond portfolio. The resulting discount rate is reflective of both the current interest rate environment and the plan's distinct liability characteristics.

The table below sets forth the estimated impact on our 2024 net periodic pension cost relative to a change in the discount rate and a change in the expected rate of return on plan assets.

In millions	**Impact on Pension Cost Increase/ (Decrease)**
Discount rate used to value liabilities	
0.25 percent increase	$ (6)
0.25 percent decrease	7
Expected rate of return on assets	
1 percent increase	(61)
1 percent decrease	61

The above sensitivities reflect the impact of changing one assumption at a time. A higher discount rate decreases the plan obligations and decreases our net periodic pension cost. A lower discount rate increases the plan obligations and increases our net periodic pension cost. It should be noted that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear. NOTE 11, "PENSIONS AND OTHER POSTRETIREMENT BENEFITS," to our Consolidated Financial Statements provides a summary of our pension benefit plan activity, the funded status of our plans and the amounts recognized in our Consolidated Financial Statements.

RECENTLY ADOPTED AND RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

See NOTE 1, "SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES" to our Consolidated Financial Statements for additional information.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial risk resulting from volatility in foreign exchange rates, interest rates and commodity prices. This risk is closely monitored and managed through the use of physical forward contracts (which are not considered derivatives) and financial derivative instruments including foreign currency forward contracts, commodity swap contracts and interest rate swaps and locks. Financial derivatives are used expressly for hedging purposes and under no circumstances are they used for speculative purposes. When material, we adjust the estimated fair value of our derivative contracts for counterparty or our credit risk. None of our derivative instruments are subject to collateral requirements. Substantially all of our derivative contracts are subject to master netting arrangements, which provide us with the option to settle certain contracts on a net basis when they settle on the same day with the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event.

We also enter into physical forward contracts with certain suppliers to purchase minimum volumes of commodities at contractually stated prices for various periods. These arrangements, as further described below, enable us to fix the prices of portions of our normal purchases of these commodities, which otherwise are subject to market volatility.

The following describes our risk exposures and provides the results of a sensitivity analysis performed at December 31, 2023. The sensitivity analysis assumes instantaneous, parallel shifts in foreign currency exchange rates and commodity prices. See NOTE 21, "DERIVATIVES," to our Consolidated Financial Statements for additional information.

Foreign Currency Exchange Rate Risk

As a result of our international business presence, we are exposed to foreign currency exchange rate risks. We transact business in foreign currencies and, as a result, our income experiences some volatility related to movements in foreign currency exchange rates. To help manage our exposure to exchange rate volatility, we use foreign currency forward contracts on a regular basis to hedge forecasted intercompany and third-party sales and purchases denominated in non-functional currencies. Our foreign currency cash flow hedges generally mature within two years. These foreign currency forward contracts are designated and qualify as foreign currency cash flow hedges. For the years ended December 31, 2023, and 2022, there were no circumstances that resulted in the discontinuance of a foreign currency cash flow hedge.

To minimize the income volatility resulting from the remeasurement of net monetary assets and payables denominated in a currency other than the functional currency, we enter into foreign currency forward contracts, which are considered economic hedges. The objective is to offset the gain or loss from remeasurement with the gain or loss from the fair market valuation of the forward contract. These derivative instruments are not designated as hedges.

We are further exposed to foreign currency exchange risk as many of our subsidiaries are subject to fluctuations as the functional currencies of the underlying entities are not our U.S. dollar reporting currency. In order to minimize movements in certain investments, in 2022 we began entering into foreign exchange forwards designated as net investment hedges. Under the terms of our foreign exchange forwards, we agreed with third parties to sell British pounds in exchange for U.S. dollar currency at a specified rate at the maturity of the contract. These forwards are utilized to hedge portions of our net investments denominated in the British pound against the effect of exchange rate fluctuations on the translation of foreign currency balances to the U.S. dollar. The change in fair value related to the spot-to-forward rate difference is recorded as other income (expense) with all other changes in fair value deferred and reported as components of AOCL. The unrealized gain or loss is classified into income in the same period when the foreign subsidiary is sold or substantially liquidated.

At December 31, 2023, the potential gain or loss in the fair value of our outstanding foreign currency contracts, assuming a hypothetical 10 percent fluctuation in the currencies of such contracts, would be approximately $29 million. The sensitivity analysis of the effects of changes in foreign currency exchange rates assumes the notional value to remain constant for the next 12 months. The analysis ignores the impact of foreign exchange movements on our competitive position and potential changes in sales levels. Any change in the value of the contracts, real or hypothetical, would be significantly offset by an inverse change in the value of the underlying hedged items.

Interest Rate Risk

We are exposed to market risk from fluctuations in interest rates. We manage our exposure to interest rate fluctuations through the use of interest rate swaps. The objective of the swaps is to more effectively balance our borrowing costs and interest rate risk. Interest rate swaps designated as cash flow hedges involve the receipt of variable amounts from a counterparty in exchange for us making fixed-rate payments over the life of the agreement without exchange of the underlying notional amount. Interest rate swaps designated as fair value hedges involve the receipt of fixed-rate amounts from a counterparty in exchange for us making variable-rate payments over the life of the agreements without exchange of the underlying notional amount. We also may hedge the anticipated issuance of fixed-rate debt, and these contracts are designated as cash flow hedges.

At any time, a change in interest rates could have an adverse impact on the fair value of our portfolios. Assuming a hypothetical adverse movement in interest rates of one percentage point, the combined value of our interest rate derivatives portfolios would be reduced by $3 million, as calculated as of December 31, 2023. However, this does not take into consideration an offset in the underlying hedged items when using fair value hedges. While these are our best estimates of the impact of the specified interest rate scenario, actual results could differ from those projected. The sensitivity analysis presented assumes interest rate changes are instantaneous with parallel shifts in the yield curve.

Commodity Price Risk

We are exposed to fluctuations in commodity prices due to contractual agreements with component suppliers. In order to protect ourselves against future price volatility and, consequently, fluctuations in gross margins, we periodically enter into commodity swap and forward contracts with designated banks and other counterparties to fix the cost of certain raw material purchases with the objective of minimizing changes in inventory cost due to market price fluctuations. These commodity swaps are designated and qualify as cash flow hedges. At December 31, 2023, realized and unrealized gains and losses related to these hedges were not material to our financial statements. We also enter into physical forward contracts, which qualify for the normal purchases scope exception and are treated as purchase commitments.

We also limit our exposure to commodity price risk by entering into purchasing arrangements to fix the price of certain volumes of platinum, palladium and iridium expected to be used in our products. We enter into physical forward contracts with suppliers of platinum, palladium and iridium to purchase some volumes of the commodities at contractually stated prices for various periods, generally less than two years. These arrangements enable us to fix the prices of a portion of our purchases of these commodities, which otherwise are subject to market volatility. Additional information on the physical forwards is included in NOTE 15, "COMMITMENTS AND CONTINGENCIES."

ITEM 8. Financial Statements and Supplementary Data

Index to Financial Statements

- **Notes to the Consolidated Financial Statements**

MANAGEMENT'S REPORT TO SHAREHOLDERS

Management's Report on Financial Statements and Practices

The accompanying Consolidated Financial Statements of Cummins Inc. were prepared by management, which is responsible for their integrity and objectivity. The statements were prepared in accordance with generally accepted accounting principles 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 our 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 we operate, within the Foreign Corrupt Practices Act and potentially conflicting interests of its employees. We maintain a systematic program to assess compliance with these policies.

To comply with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, we designed and implemented a structured and comprehensive compliance process to evaluate our internal control over financial reporting across the enterprise.

Management's Report on Internal Control Over Financial Reporting

The management of Cummins Inc. is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and preparation of our Consolidated Financial Statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Management assessed the effectiveness of our internal control over financial reporting and concluded it was effective as of December 31, 2023. In making its assessment, management utilized the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control—Integrated Framework (2013).

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

Officer Certifications

Please refer to Exhibits 31(a) and 31(b) attached to this report for certifications required under Section 302 of the Sarbanes-Oxley Act of 2002.

/s/ JENNIFER RUMSEY	/s/ MARK A. SMITH
Chair and Chief Executive Officer	Vice President and Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Cummins Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Cummins Inc. and its subsidiaries (the “Company”) as of December 31, 2023 and 2022, and the related consolidated statements of net income, comprehensive income, changes in redeemable noncontrolling interests and equity and cash flows for each of the three years in the period ended December 31, 2023, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

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

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

Critical Audit Matters

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

Annual Goodwill Impairment Tests – Automated Transmissions and Axles and Brakes Reporting Units

As described in Notes 1 and 10 to the consolidated financial statements, the Company’s consolidated goodwill balance was $2,499 million as of December 31, 2023, and as disclosed by management, the goodwill associated with the automated transmissions reporting unit and axles and brakes reporting unit (collectively, the “reporting units”) was $544 million and $764 million, respectively. Management performs the goodwill impairment tests as of the end of the fiscal third quarter, or on an interim basis in certain circumstances where impairment may be indicated. Management performs the annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. In estimating the fair value of each reporting unit, management used an income approach using a discounted cash flow model. The discounted cash flow model requires projections of revenue, gross margin, operating expenses, working capital investment and fixed asset additions for the reporting units over a multi-year period, and a discount rate based upon a weighted-average cost of capital.

The principal considerations for our determination that performing procedures relating to the annual goodwill impairment tests for the reporting units is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the reporting units; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management’s significant assumptions related to projections of revenue and gross margin for the reporting units and the discount rate for the axles and brakes reporting unit; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management’s goodwill impairment tests, including controls over the valuation of the reporting units. These procedures also included, among others (i) testing management’s process for developing the fair value estimate of the reporting units; (ii) evaluating the appropriateness of the discounted cash flow model used by management; (iii) testing the completeness and accuracy of underlying data used in the discounted cash flow model; and (iv) evaluating the reasonableness of significant assumptions used by management related to projections of revenue and gross margin for the reporting units and the discount rate for the axles and brakes reporting unit. Evaluating management’s assumptions related to projections of revenue and gross margin involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the reporting units; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the discounted cash flow model and (ii) the reasonableness of the discount rate assumption for the axles and brakes reporting unit.

/s/PricewaterhouseCoopers LLP
Indianapolis, Indiana
February 12, 2024

We have served as the Company’s auditor since 2002.

CUMMINS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF NET INCOME

In millions, except per share amounts	Years ended December 31, 2023	2022	2021
NET SALES (Notes 1 and 3)	**$34,065**	$28,074	$24,021
Cost of sales	**25,816**	21,355	18,326
GROSS MARGIN	**8,249**	6,719	5,695
OPERATING EXPENSES AND INCOME			
Selling, general and administrative expenses	**3,333**	2,687	2,374
Research, development and engineering expenses	**1,500**	1,278	1,090
Equity, royalty and interest income from investees (Note 4)	**483**	349	506
Other operating expense, net (Note 2)	**2,138**	174	31
OPERATING INCOME	**1,761**	2,929	2,706
Interest expense	**375**	199	111
Other income, net	**240**	89	156
INCOME BEFORE INCOME TAXES	**1,626**	2,819	2,751
Income tax expense (Note 5)	**786**	636	587
CONSOLIDATED NET INCOME	**840**	2,183	2,164
Less: Net income attributable to noncontrolling interests	**105**	32	33
NET INCOME ATTRIBUTABLE TO CUMMINS INC.	**$ 735**	$ 2,151	$ 2,131
EARNINGS PER COMMON SHARE ATTRIBUTABLE TO CUMMINS INC. (Note 20)			
Basic	**$ 5.19**	$ 15.20	$ 14.74
Diluted	**$ 5.15**	$ 15.12	$ 14.61

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In millions	Years ended December 31, 2023	2022	2021
CONSOLIDATED NET INCOME	**$ 840**	$ 2,183	$ 2,164
Other comprehensive (loss) income, net of tax (Note 17)			
Change in pension and other postretirement defined benefit plans	**(421)**	(81)	389
Foreign currency translation adjustments	**92**	(384)	(9)
Unrealized gain on derivatives	**10**	106	26
Total other comprehensive (loss) income, net of tax	**(319)**	(359)	406
COMPREHENSIVE INCOME	**521**	1,824	2,570
Less: Comprehensive income (loss) attributable to noncontrolling interests	**102**	(8)	28
COMPREHENSIVE INCOME ATTRIBUTABLE TO CUMMINS INC.	**$ 419**	$ 1,832	$ 2,542

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

In millions, except par value	December 31, 2023	2022
ASSETS		
Current assets		
Cash and cash equivalents	**$ 2,179**	$ 2,101
Marketable securities (Note 6)	**562**	472
Total cash, cash equivalents and marketable securities	**2,741**	2,573
Accounts and notes receivable, net	**5,583**	5,202
Inventories (Note 7)	**5,677**	5,603
Prepaid expenses and other current assets	**1,197**	1,073
Total current assets	**15,198**	14,451
Long-term assets		
Property, plant and equipment, net (Note 8)	**6,249**	5,521
Investments and advances related to equity method investees (Note 4)	**1,800**	1,759
Goodwill (Note 10)	**2,499**	2,343
Other intangible assets, net (Note 10)	**2,519**	2,687
Pension assets (Note 11)	**1,197**	1,398
Other assets (Note 12)	**2,543**	2,140
Total assets	**$ 32,005**	$ 30,299
LIABILITIES		
Current liabilities		
Accounts payable (principally trade)	**$ 4,260**	$ 4,252
Loans payable (Note 13)	**280**	210
Commercial paper (Note 13)	**1,496**	2,574
Current maturities of long-term debt (Note 13)	**118**	573
Accrued compensation, benefits and retirement costs	**1,108**	617
Current portion of accrued product warranty (Note 14)	**667**	726
Current portion of deferred revenue (Note 3)	**1,220**	1,004
Other accrued expenses (Note 12)	**3,754**	1,465
Total current liabilities	**12,903**	11,421
Long-term liabilities		
Long-term debt (Note 13)	**4,802**	4,498
Deferred revenue (Note 3)	**966**	844
Other liabilities (Note 12)	**3,430**	3,311
Total liabilities	**$ 22,101**	$ 20,074
Commitments and contingencies (Note 15)		
Redeemable noncontrolling interests (Note 24)	**$ —**	$ 258
EQUITY		
Cummins Inc. shareholders' equity (Note 16)		
Common stock, $2.50 par value, 500 shares authorized, 222.5 and 222.5 shares issued	**$ 2,564**	$ 2,243
Retained earnings	**17,851**	18,037
Treasury stock, at cost, 80.7 and 81.2 shares	**(9,359)**	(9,415)

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

In millions	Years ended December 31, 2023	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES			
Consolidated net income	**$ 840**	$ 2,183	$ 2,164
Adjustments to reconcile consolidated net income to net cash provided by operating activities			
Depreciation and amortization	**1,024**	784	662
Deferred income taxes (Note 5)	**(457)**	(274)	7
Equity in income of investees, net of dividends	**(81)**	64	(83)
Pension and OPEB expense (Note 11)	**8**	24	83
Pension contributions and OPEB payments (Note 11)	**(134)**	(85)	(102)
Russian suspension costs, net of recoveries (Note 22)	**—**	111	—
Changes in current assets and liabilities, net of acquisitions			
Accounts and notes receivable	**(330)**	(697)	(174)
Inventories	**—**	(567)	(945)
Other current assets	**(120)**	(109)	2
Accounts payable	**(66)**	538	217
Accrued expenses (Note 2)	**2,934**	(170)	541
Other, net	**348**	160	(116)
Net cash provided by operating activities	**3,966**	1,962	2,256
CASH FLOWS FROM INVESTING ACTIVITIES			
Capital expenditures	**(1,213)**	(916)	(734)
Acquisitions of businesses, net of cash acquired (Note 24)	**(292)**	(3,191)	—
Investments in marketable securities—acquisitions	**(1,409)**	(1,073)	(806)
Investments in marketable securities—liquidations (Note 6)	**1,334**	1,151	673
Other, net	**(63)**	(143)	(6)
Net cash used in investing activities	**(1,643)**	(4,172)	(873)
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from borrowings	**861**	2,103	79
Net (payments) borrowings of commercial paper	**(779)**	2,261	(10)
Payments on borrowings and finance lease obligations	**(1,136)**	(1,550)	(73)
Dividend payments on common stock (Note 16)	**(921)**	(855)	(809)
Repurchases of common stock (Note 16)	**—**	(374)	(1,402)
Payments for purchase of redeemable noncontrolling interests (Note 24)	**(175)**	—	—
Other, net	**(27)**	84	(12)
Net cash (used in) provided by financing activities	**(2,177)**	1,669	(2,227)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	**(68)**	50	35
Net increase (decrease) in cash and cash equivalents	**78**	(491)	(809)
Cash and cash equivalents at beginning of year	**2,101**	2,592	3,401
CASH AND CASH EQUIVALENTS AT END OF PERIOD	**$2,179**	$ 2,101	$ 2,592

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY

In millions	Redeemable Noncontrolling Interests	Common Stock	Additional Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Total Cummins Inc. Shareholders' Equity	Noncont Intere
BALANCE AT DECEMBER 31, 2020	$ 282	$ 556	$ 1,617	$ 15,419	$ (7,779)	$ (1,982)	$ 7,831	$
Net income	(13)			2,131			2,131	
Other comprehensive income (loss), net of tax (Note 17)						411	411	
Issuance of common stock			1				1	
Repurchases of common stock (Note 16)					(1,402)		(1,402)	
Cash dividends on common stock (Note 16)				(809)			(809)	
Distributions to noncontrolling interests							—	
Share-based awards			1		55		56	
Fair value adjustment of redeemable noncontrolling interests	97		(97)				(97)	
Other shareholder transactions			21		3		24	
BALANCE AT DECEMBER 31, 2021	$ 366	$ 556	$ 1,543	$ 16,741	$ (9,123)	$ (1,571)	$ 8,146	$
Net income	(24)			2,151			2,151	
Other comprehensive loss, net of tax (Note 17)						(319)	(319)	
Issuance of common stock			8				8	
Repurchases of common stock (Note 16)					(374)		(374)	
Cash dividends on common stock (Note 16)				(855)			(855)	

The accompanying notes are an integral part of our Consolidated Financial Statements.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

We were founded in 1919 as Cummins Engine Company, a corporation in Columbus, Indiana, and one of the first diesel engine manufacturers. In 2001, we changed our name to Cummins Inc. We are a global power leader that designs, manufactures, distributes and services diesel, natural gas, electric and hybrid powertrains and powertrain-related components including filtration, aftertreatment, turbochargers, fuel systems, valvetrain technologies, controls systems, air handling systems, automated transmissions, axles, drivelines, brakes, suspension systems, electric power generation systems, batteries, electrified power systems, hydrogen production technologies and fuel cell products. We sell our products to original equipment manufacturers (OEMs), distributors, dealers and other customers worldwide. We serve our customers through a service network of approximately 450 wholly-owned, joint venture and independent distributor locations and more than 19,000 Cummins certified dealer locations in approximately 190 countries and territories.

Meritor Acquisition

On August 3, 2022, we completed the acquisition of Meritor with a purchase price of $2.9 billion (including debt repaid concurrent with the acquisition). Our consolidated results and segment results include Meritor's activity since the date of acquisition. Meritor was split into the newly formed axles and brakes business and electric powertrain. The results for the axles and brakes business are included in our Components segment while the electric powertrain portion is included in our Accelera segment. See NOTE 24, "ACQUISITIONS," for additional information.

Principles of Consolidation

Our Consolidated Financial Statements are prepared in accordance with generally accepted accounting principles in the United States of America (GAAP). All intercompany balances and transactions are eliminated in consolidation.

We include the accounts of all wholly-owned and majority-owned domestic and foreign subsidiaries where our ownership is more than 50 percent of outstanding equity interests except for majority-owned subsidiaries that are considered variable interest entities (VIEs) where we are not deemed to have a controlling financial interest. In addition, we also consolidate, regardless of our ownership percentage, VIEs or joint ventures for which we are deemed to have a controlling financial interest. We have variable interests in several businesses accounted for under the equity method of accounting.

For consolidated entities where our ownership interest is less than 100 percent, the noncontrolling ownership interests are reported in our Consolidated Balance Sheets. The noncontrolling ownership interest in our income, net of tax, is classified as net income attributable to noncontrolling interests in our Consolidated Statements of Net Income.

Reclassifications

Certain amounts for 2022 and 2021 were reclassified to conform to the current year presentation.

Investments in Equity Investees

We use the equity method to account for our investments in joint ventures, affiliated companies and alliances in which we have the ability to exercise significant influence, generally represented by equity ownership or partnership equity of at least 20 percent but not more than 50 percent. Generally, under the equity method, original investments in these entities are recorded at cost and subsequently adjusted by our share of equity in income or losses after the date of acquisition. Investment amounts in excess of our share of an investee's net assets are amortized over the life of the related asset creating the excess, except goodwill which is not amortized. Equity in income or losses of each investee is recorded according to our level of ownership; if losses accumulate, we record our share of losses until our investment has been fully depleted. If our investment has been fully depleted, we recognize additional losses only when we are the primary funding source. We eliminate (to the extent of our ownership percentage) in our Consolidated Financial Statements the profit in inventory held by our equity method investees that has not yet been sold to a third-party. Dividends received from equity method investees reduce the amount of our investment when received and do not impact our earnings. Our investments are classified as Investments and advances related to equity method investees in our Consolidated Balance Sheets. Our share of the results from joint ventures, affiliated companies and alliances is reported in our Consolidated Statements of Net Income as equity, royalty and interest income from investees, and is reported net of all applicable income taxes.

Our share of the results from our foreign equity investees are presented net of applicable foreign income taxes in our Consolidated Statements of Net Income. Our remaining U.S. equity investees are partnerships (non-taxable), thus there is no difference between gross or net of tax presentation as the investees are not taxed. See NOTE 4, "INVESTMENTS IN EQUITY INVESTEES," for additional information.

Use of Estimates in the Preparation of the Financial Statements

Preparation of financial statements requires management to make estimates and assumptions that affect reported amounts presented and disclosed in our Consolidated Financial Statements. Significant estimates and assumptions in these Consolidated Financial Statements require the exercise of judgement and are used for, but not limited to, estimates of future cash flows and other assumptions associated with the valuation of intangible assets and goodwill and long-lived asset impairment tests, useful lives for depreciation and amortization, warranty programs, determination of discount rate and other assumptions for pensions and other postretirement benefit obligations (OPEB) and related costs, income taxes, deferred tax valuation allowances, contingencies and allowances for doubtful accounts. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be different from these estimates.

Revenue From Contracts with Customers

Revenue Recognition Sales of Products

We sell to customers either through long-term arrangements or standalone purchase orders. Our long-term arrangements generally do not include committed volumes until underlying purchase orders are issued. Our performance obligations vary by contract, but may include diesel, natural gas, electric and hybrid powertrains and powertrain-related components including filtration, aftertreatment, turbochargers, fuel systems, controls systems, air handling systems, automated transmissions, axles, drivelines, brakes, valvetrain technologies, suspension systems, electric power generation systems and construction related projects, batteries, electrified power systems, electric powertrains, hydrogen production technologies, fuel cell products, parts, maintenance services and extended warranty coverage.

Typically, we recognize revenue on the products we sell at a point in time, generally in accordance with shipping terms, which reflects the transfer of control to the customer. Since control of construction projects transfer to the customer as the work is performed, revenue on these projects is recognized based on the percentage of inputs incurred to date compared to the total expected cost of inputs, which is reflective of the value transferred to the customer. Revenue is recognized under long-term maintenance and other service agreements over the term of the agreement as underlying services are performed based on the percentage of the cost of services provided to date compared to the total expected cost of services to be provided under the contract. Sales of extended coverage are recognized based on the pattern of expected costs over the extended coverage period or, if such a pattern is unknown, on a straight-line basis over the coverage period as the customer is considered to benefit from our stand ready obligation over the coverage period. In all cases, we believe cost incurred is the most representative depiction of the extent of service performed to date on a particular contract.

Our arrangements may include the act of shipping products to our customers after the performance obligation related to that product has been satisfied. We have elected to account for shipping and handling as activities to fulfill the promise to transfer goods and have not allocated revenue to the shipping activity. All related shipping and handling costs are accrued at the time the related performance obligation is satisfied.

Our sales arrangements may include the collection of sales and other similar taxes that are then remitted to the related taxing authority. We have elected to present the amounts collected for these taxes net of the related tax expense rather than presenting them as additional revenue.

We grant credit limits and terms to customers based upon traditional practices and competitive conditions. Typical terms vary by market, but payments are generally due in 90 days or less from invoicing for most of our product and service sales, while payments on construction, electrolyzer and certain power generation contracts may be due on an installment basis.

For contracts where the time between cash collection and performance is less than one year, we have elected to use the practical expedient that allows us to ignore the possible existence of a significant financing component within the contract. For contracts where this time period exceeds one year, generally the timing difference is the result of business concerns other than financing. We do have a limited amount of customer financing for which we charge or impute interest, but such amounts are immaterial to our Consolidated Statements of Net Income.

Sales Incentives

We provide various sales incentives to both our distribution network and OEM customers. These programs are designed to promote the sale of our products in the channel or encourage the usage of our products by OEM customers. When there is uncertainty surrounding these sales incentives, we may limit the amount of revenue we recognize under a contract until the uncertainty has been resolved. Sales incentives primarily fall into three categories:

- Volume rebates;
- Market share rebates; and

- Aftermarket rebates.

For volume rebates, we provide certain customers with rebate opportunities for attaining specified volumes during a particular quarter or year. We consider the expected amount of these rebates at the time of the original sale as we determine the overall transaction price. We update our assessment of the amount of rebates that will be earned quarterly based on our best estimate of the volume levels the customer will reach during the measurement period. For market share rebates, we provide certain customers with rebate opportunities based on the percentage of their production that utilizes our product. These rebates are typically measured either quarterly or annually and we assess them at least quarterly to determine our current estimates of amounts expected to be earned. These estimates are considered in the determination of transaction price at the time of the original sale based on the current market shares, with adjustments made as the level changes. For aftermarket rebates, we provide incentives to promote sales to certain dealers and end-markets. These rebates are typically paid on a quarterly, or more frequent basis. At the time of the sales, we consider the expected amount of these rebates when determining the overall transaction price. Estimates are adjusted at the end of each quarter based on the amounts yet to be paid. These estimates are based on historical experience with the particular program.

Sales Returns

The initial determination of the transaction price may also be impacted by expected product returns. Rights of return do not exist for the majority of our sales other than for quality issues. We do offer certain return rights in our aftermarket business, where some aftermarket customers are permitted to return small amounts of parts and filters each year, and in our power generation business, which sells portable generators to retail customers. An estimate of future returns is accounted for at the time of sale as a reduction in the overall contract transaction price based on historical return rates.

Multiple Performance Obligations

Our sales arrangements may include multiple performance obligations. We identify each of the material performance obligations in these arrangements and allocate the total transaction price to each performance obligation based on its relative selling price. In most cases, the individual performance obligations are also sold separately and we use that price as the basis for allocating revenue to the included performance obligations. When an arrangement includes multiple performance obligations and invoicing to the customer does not match the allocated portion of the transaction price, unbilled revenue or deferred revenue is recorded reflecting that difference. Unbilled and deferred revenue are discussed in more detail below.

Long-term Contracts

Our long-term maintenance agreements often include a variable component of the transaction price. We are generally compensated under such arrangements on a cost per hour of usage basis. We typically can estimate the expected usage over the life of the contract, but reassess the transaction price each quarter and adjust our recognized revenue accordingly. Certain maintenance agreements apply to generators used to provide standby power, which have limited expectations of usage. These agreements may include monthly minimum payments, providing some certainty to the total transaction price. For these particular contracts that relate to standby power, we limit revenue recognized to date to an amount representing the total minimums earned to date under the contract plus any cumulative billings earned in excess of the minimums. We reassess the estimates of progress and transaction price on a quarterly basis. For prime power arrangements, revenue is not subject to such a constraint and is generally equal to the current estimate on a percentage of completion basis times the total expected revenue under the contract.

Deferred Revenue

The timing of our billing does not always match the timing of our revenue recognition. We record deferred revenue when we are entitled to bill a customer in advance of when we are permitted to recognize revenue. Deferred revenue may arise in construction and other power generation systems and electrolyzer contracts, where billings may occur in advance of performance or in accordance with specific milestones. Deferred revenue may also occur in long-term maintenance contracts, where billings are often based on usage of the underlying equipment, which generally follows a predictable pattern that often will result in the accumulation of collections in advance of our performance of the related maintenance services. Finally, deferred revenue exists in our extended coverage contracts, where the cash is collected prior to the commencement of the coverage period. Deferred revenue is included in our Consolidated Balance Sheets as a component of current liabilities for the amount expected to be recognized in revenue in a period of less than one year and long-term liabilities for the amount expected to be recognized as revenue in a period beyond one year. Deferred revenue is recognized as revenue when control of the underlying product, project or service passes to the customer under the related contract.

Unbilled Revenue

We recognize unbilled revenue when the revenue has been earned, but not yet billed. Unbilled revenue is included in our Consolidated Balance Sheets as a component of current assets for those expected to be collected in a period of less than one year and long-term assets for those expected to be collected in a period beyond one year. Unbilled revenue relates to our right to consideration for our completed performance under a contract. Unbilled revenue generally arises from contractual provisions that delay a portion of the billings on genset deliveries until commissioning occurs. Unbilled revenue may also occur when billings trail the provision of service in construction and long-term maintenance contracts. Our unbilled revenue is assessed for collection risks at the time the amounts are initially recorded. This estimate of expected losses reflects those losses expected to occur over the contractual life of the unbilled amount through the time of collection. We did not record any impairment losses on our unbilled revenues during the years ended December 31, 2023, 2022 and 2021.

Contract Costs

We are required to record an asset for the incremental costs of obtaining a contract with a customer and other costs to fulfill a contract not otherwise required to be immediately expensed when we expect to recover those costs. The only material incremental cost we incur is commission expense, which is generally incurred in the same period as the underlying revenue. Costs to fulfill a contract are generally limited to customer-specific engineering expenses that do not meet the definition of research and development expenses. As a practical expedient, we have elected to recognize these costs of obtaining a contract as an expense when the related contract period is less than one year. When the period exceeds one year, this asset is amortized over the life of the contract. We did not have any material capitalized balances at December 31, 2023 or 2022.

Extended Warranty

We sell extended warranty coverage on most of our engines and on certain components. We consider a warranty to be extended coverage in any of the following situations:

- When a warranty is sold separately or is optional (extended coverage contracts, for example) or
- When a warranty provides additional services.

The consideration collected is initially deferred and is recognized as revenue in proportion to the costs expected to be incurred in performing services over the contract period. We compare the remaining deferred revenue balance quarterly to the estimated amount of future claims under extended warranty programs and provide an additional accrual when the deferred revenue balance is less than expected future costs.

Foreign Currency Transactions and Translation

We translate assets and liabilities of foreign entities to U.S. dollars, where the local currency is the functional currency, at month-end exchange rates. We translate income and expenses to U.S. dollars using weighted-average exchange rates. We record adjustments resulting from translation in a separate component of accumulated other comprehensive loss (AOCL) and include the adjustments in net income only upon sale, loss of controlling financial interest or liquidation of the underlying foreign investment.

Foreign currency transaction gains and losses are included in current net income. For foreign entities where the U.S. dollar is the functional currency, including those operating in highly inflationary economies when applicable, we remeasure non-monetary balances and the related income statement amounts using historical exchange rates. We include the resulting gains and losses in income, including the effect of derivatives in our Consolidated Statements of Net Income, which combined with transaction gains and losses amounted to a net loss of $30 million and $8 million and a net gain of $2 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Fair Value Measurements

A three-level valuation hierarchy, based upon the observable and unobservable inputs, is used for fair value measurements. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions based on the best evidence available. These two types of inputs create the following fair value hierarchy:

- Level 1 - Quoted prices for identical instruments in active markets;

- Level 2 - Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations whose significant inputs are observable; and

- Level 3 - Instruments whose significant inputs are unobservable.

Derivative Instruments

We make use of derivative instruments in foreign exchange, commodity price and interest rate hedging programs. Derivatives currently in use are foreign currency forward contracts, commodity swaps and interest rate swaps and locks. These contracts are used strictly for hedging and not for speculative purposes.

Due to our international business presence, we are exposed to foreign currency exchange risk. We transact in foreign currencies and have assets, liabilities and investments in subsidiaries denominated in foreign currencies. Consequently, our income experiences some volatility related to movements in foreign currency exchange rates. In order to benefit from global diversification and after considering naturally offsetting currency positions, we enter into foreign currency forward contracts to minimize our existing exposures (recognized assets and liabilities) and hedge forecasted transactions. Foreign currency forward contracts are designated and qualify as foreign currency cash flow hedges. The unrealized gain or loss on the forward contract is deferred and reported as a component of AOCL. When the hedged forecasted transaction (sale or purchase) occurs, the unrealized gain or loss is reclassified into income in the same line item associated with the hedged transaction in the same period or periods during which the hedged transaction affects income. At December 31, 2023 and 2022, realized and unrealized gains and losses related to these hedges were not material to our financial statements.

To minimize the income volatility resulting from the remeasurement of net monetary assets and payables denominated in a currency other than the functional currency, we enter into foreign currency forward contracts, which are considered economic hedges. The objective is to offset the gain or loss from remeasurement with the gain or loss from the fair market valuation of the forward contract. These derivative instruments are not designated as hedges. Gains or losses are recorded directly to the Consolidated Statements of Net Income.

We are further exposed to foreign currency exchange risk as many of our subsidiaries are subject to fluctuations as the functional currencies of the underlying entities are not our U.S. dollar reporting currency. In order to minimize movements in certain investments, in 2022 we began entering into foreign exchange forwards designated as net investment hedges. These forwards are utilized to hedge portions of our net investments against the effect of exchange rate fluctuations on the translation of foreign currency balances to the U.S. dollar. The change in fair value related to the spot-to-forward rate difference is recorded as other income (expense) with all other changes in fair value deferred and reported as components of AOCL. The unrealized gain or loss is classified into income in the same period when the foreign subsidiary is sold or substantially liquidated.

We are exposed to fluctuations in commodity prices due to contractual agreements with component suppliers. In order to protect ourselves against future price volatility and, consequently, fluctuations in gross margins, we periodically enter into commodity swap and forward contracts with designated banks and other counterparties to fix the cost of certain raw material purchases with the objective of minimizing changes in inventory cost due to market price fluctuations. These commodity swaps are designated and qualify as cash flow hedges. At December 31, 2023, realized and unrealized gains and losses related to these hedges were not material to our financial statements. We also enter into physical forward contracts, which qualify for the normal purchases scope exception and are treated as purchase commitments. Additional information on the physical forwards is included in NOTE 15, "COMMITMENTS AND CONTINGENCIES."

We are exposed to market risk from fluctuations in interest rates. We manage our exposure to interest rate fluctuations through the use of interest rate swaps and locks. The objective is to more effectively balance our borrowing costs and interest rate risk for current and future exposure. The gain or loss on the swaps as well as the offsetting gain or loss on the hedged item are recognized in current income as interest expense. The gain or loss on the locks is deferred and reported as a component of AOCL. For more detail on our interest rate swaps, see NOTE 21, "DERIVATIVES."

We record all derivatives at fair value in our financial statements. Cash flows related to derivatives that are designated as hedges are classified in the same manner as the item being hedged, while cash flows related to derivatives that are not designated as hedges are included in cash flows from investing activities in our Consolidated Statements of Cash Flows.

Substantially all of our derivative contracts are subject to master netting arrangements, which provide us with the option to settle certain contracts on a net basis when they settle on the same day with the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event. When material, we adjust the value of our derivative contracts for counter-party or our credit risk. None of our derivative instruments are subject to collateral requirements.

Income Tax Accounting

We determine our income tax expense using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Future tax benefits of net operating loss and credit carryforwards are also recognized as deferred tax assets. We evaluate the recoverability of our deferred tax assets each quarter by assessing the likelihood of future profitability and available tax planning strategies that could be implemented to realize our net deferred tax assets. A valuation allowance is recorded to reduce the tax assets to the net value management believes is more likely than not to be realized. In the event our operating performance deteriorates, future assessments could conclude that a larger valuation allowance will be needed to further reduce the deferred tax assets. In addition, we operate within multiple taxing jurisdictions and are subject to tax audits in these jurisdictions. These audits can involve complex issues, which may require an extended period of time to resolve. We accrue for the estimated additional tax and interest that may result from tax authorities disputing uncertain tax positions. We believe we made adequate provisions for income taxes for all years that are subject to audit based upon the latest information available. A more complete description of our income taxes and the future benefits of our net operating loss and credit carryforwards is disclosed in NOTE 5, "INCOME TAXES."

Cash and Cash Equivalents

Cash equivalents are defined as short-term, highly liquid investments with an original maturity of 90 days or less at the time of purchase. The carrying amounts reflected in our Consolidated Balance Sheets for cash and cash equivalents approximate fair value due to the short-term maturity of these investments.

Cash payments for income taxes and interest were as follows:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Cash payments for income taxes, net of refunds	**$ 1,181**	$ 903	$ 521
Cash payments for interest, net of capitalized interest	**374**	184	111

Marketable Securities

Debt securities are classified as "held-to-maturity," "available-for-sale" or "trading." We determine the appropriate classification of debt securities at the time of purchase and re-evaluate such classifications at each balance sheet date. At December 31, 2023 and 2022, all of our debt securities were classified as available-for-sale. Debt and equity securities are carried at fair value with the unrealized gain or loss, net of tax, reported in other comprehensive income and other income, respectively. For debt securities, unrealized losses considered to be "other-than-temporary" are recognized currently in other income. The cost of securities sold is based on the specific identification method. The fair value of most investment securities is determined by currently available market prices. Where quoted market prices are not available, we use the market price of similar types of securities that are traded in the market to estimate fair value. See NOTE 6, "MARKETABLE SECURITIES," for a detailed description of our investments in marketable securities.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable represent amounts billed to customers and not yet collected or amounts that were earned, but may not be billed until the passage of time, and are recorded when the right to consideration becomes unconditional. Trade accounts receivable are recorded at the invoiced amount, which approximates net realizable value, and generally do not bear interest. The allowance for doubtful accounts is our best estimate of the amount of expected credit losses in our existing accounts receivable. We determine the allowance based on our historical collection experience and by performing an analysis of our accounts receivable in light of the current economic environment. This estimate of expected losses reflects those losses expected to occur over the contractual life of the receivable. We review our allowance for doubtful accounts on a regular basis. In addition, when necessary, we provide an allowance for the full amount of specific accounts deemed to be uncollectible. Account balances are charged off against the allowance in the period in which we determine that it is probable the receivable will not be recovered. The allowance for doubtful accounts balances were $75 million and $78 million at December 31, 2023, and 2022, respectively, and bad debt write-offs were not material.

Inventories

Our inventories are stated at the lower of cost or net realizable value. For the years ended December 31, 2023 and 2022, approximately 12 percent and 14 percent, respectively, of our consolidated inventories (primarily heavy-duty and high-horsepower engines and parts) were valued using the last-in, first-out (LIFO) cost method. The cost of other inventories is generally valued using the first-in, first-out (FIFO) cost method. Our inventories at interim and year-end reporting dates include estimates for adjustments related to annual physical inventory results and for inventory cost changes under the LIFO cost method. Due to significant movements of partially-manufactured components and parts between manufacturing plants, we do not internally measure, nor do our accounting systems provide, a meaningful segregation between raw materials and work-in-process. See NOTE 7, "INVENTORIES," for additional information.

Property, Plant and Equipment

We record property, plant and equipment at cost, inclusive of assets under finance leases. We depreciate the cost of the majority of our property, plant and equipment using the straight-line method with depreciable lives ranging from 20 to 40 years for buildings and 3 to 15 years for machinery, equipment and fixtures. Finance lease asset amortization is recorded in depreciation expense. We expense normal maintenance and repair costs as incurred. Depreciation expense totaled $691 million, $557 million and $514 million for the years ended December 31, 2023, 2022 and 2021, respectively. See NOTE 8, "PROPERTY, PLANT AND EQUIPMENT" and NOTE 9, "LEASES," for additional information.

Impairment of Long-Lived Assets

We review our long-lived assets for possible impairment whenever events or circumstances indicate that the carrying value of an asset or asset group may not be recoverable. We assess the recoverability of the carrying value of the long-lived assets at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. An impairment of a long-lived asset or asset group exists when the expected future pre-tax cash flows (undiscounted and without interest charges) estimated to be generated by the asset or asset group is less than its carrying value. If these cash flows are less than the carrying value of such asset or asset group, an impairment loss is measured based on the difference between the estimated fair value and carrying value of the asset or asset group. Assumptions and estimates used to estimate cash flows in the evaluation of impairment and the fair values used to determine the impairment are subject to a degree of judgment and complexity. Any changes to the assumptions and estimates resulting from changes in actual results or market conditions from those anticipated may affect the carrying value of long-lived assets and could result in a future impairment charge.

Leases

We determine if an arrangement contains a lease in whole or in part at the inception of the contract. Right-of-use (ROU) assets represent our right to use an underlying asset for the lease term while lease liabilities represent our obligation to make lease payments arising from the lease. All leases greater than 12 months result in the recognition of a ROU asset and a liability at the lease commencement date based on the present value of the lease payments over the lease term. As most of our leases do not provide the information required to determine the implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. This rate is determined considering factors such as the lease term, our credit standing and the economic environment of the location of the lease. We use the implicit rate when readily determinable.

Our lease terms include all non-cancelable periods and may include options to extend (or to not terminate) the lease when it is reasonably certain that we will exercise that option. Leases that have a term of 12 months or less at the commencement date are expensed on a straight-line basis over the lease term and do not result in the recognition of an asset or a liability.

Lease expense for operating leases is recognized on a straight-line basis over the lease term. Lease expense for finance leases is generally front-loaded as the finance lease ROU asset is depreciated on a straight-line basis, but interest expense on the liability is recognized utilizing the interest method that results in more expense during the early years of the lease. We have lease agreements with lease and non-lease components, primarily related to real estate, vehicle and information technology (IT) assets. For vehicle and real estate leases, we account for the lease and non-lease components as a single lease component. For IT leases, we allocate the payment between the lease and non-lease components based on the relative value of each component. See NOTE 9, "LEASES," for additional information.

Goodwill

We have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value as a basis for determining whether it is necessary to perform an annual quantitative goodwill impairment test. We have elected this option on certain reporting units. The quantitative impairment test is only required if an entity determines through this qualitative analysis that it is more likely than not that the fair value of the reporting unit is less than its carrying value. In addition, the carrying value of goodwill must be tested for impairment on an interim basis in certain circumstances where impairment may be indicated. We perform our annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An impairment charge is recognized for the amount by which the carrying amount exceeds the reporting unit’s fair value.

When we are required or opt to perform the quantitative impairment test, the fair value of each reporting unit is estimated with either the market approach or the income approach. Our income approach method uses a discounted cash flow model in which cash flows anticipated over several periods, plus a terminal value at the end of that time horizon, are discounted to their present value using an appropriate rate of return. Our reporting units are generally defined as one level below an operating segment. However, there are four situations where we have aggregated two or more reporting units which share similar economic characteristics and thus are aggregated into a single reporting unit for testing purposes. These four situations are described further below:

- Within our Components segment, our emission solutions and Atmus businesses were aggregated into a single reporting unit,

- Within our Accelera segment, our fuel cell and electrolyzer businesses were aggregated into a single reporting unit and our epowertrain and traction systems businesses were aggregated into a single reporting unit and

- Our Distribution segment is considered a single reporting unit as it is managed geographically and all regions share similar economic characteristics and provide similar products and services.

The discounted cash flow model requires us to make projections of revenue, gross margin, operating expenses, working capital investment and fixed asset additions for the reporting units over a multi-year period. Additionally, management must estimate a weighted-average cost of capital, which reflects a market rate, for each reporting unit for use as a discount rate. The discounted cash flows are compared to the carrying value of the reporting unit and, if less than the carrying value, the difference is recorded as a goodwill impairment loss. In addition, we also perform sensitivity analyses to determine how much our forecasts can fluctuate before the fair value of a reporting unit would be lower than its carrying amount. Future changes in the judgments, assumptions and estimates that are used in our goodwill impairment testing, including discount rates or future operating results and related cash flow projections, could result in significantly different estimates of the fair values in the future. An increase in discount rates, a reduction in projected cash flows or a combination of the two could lead to a reduction in the estimated fair values, which may result in impairment charges that could materially affect our financial statements in any given year. We perform the goodwill impairment assessment as of the end of our fiscal third quarter.

At December 31, 2023, our recorded goodwill was $2.5 billion, of which approximately 31 percent resided in the axles and brakes reporting unit, 22 percent in the automated transmissions reporting unit and 19 percent in the aggregated emission solutions and filtration reporting unit. While none of the reporting units recorded a goodwill impairment in 2023, the estimated fair value of two of these reporting units did not significantly exceed the carrying value in our annual impairment testing. Our automated transmissions reporting unit had an estimated fair value that exceeded its carrying value by approximately 7 percent and our axles and brakes reporting unit had an estimated fair value that exceeded its carrying value by approximately 12 percent. Changes in our projections or estimates, a deterioration of our operating results and the related cash flow effect or a significant increase in the discount rate could decrease the estimated fair value of our reporting units and result in a future impairment of goodwill. See NOTE 10, "GOODWILL AND OTHER INTANGIBLE ASSETS," for additional information.

Other Intangible Assets

We capitalize other intangible assets, such as trademarks, patents and customer relationships, that were acquired either individually or with a group of other assets. These intangible assets are amortized on a straight-line basis over their estimated useful lives generally ranging from 3 to 25 years. Intangible assets are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable over the remaining lives of the assets. See NOTE 10, "GOODWILL AND OTHER INTANGIBLE ASSETS," for additional information.

Software

We capitalize software that is developed or obtained for internal use. Software costs are amortized on a straight-line basis over their estimated useful lives generally ranging from 2 to 12 years. Software assets are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable over the remaining lives of the assets. Upgrades and enhancements are capitalized if they result in significant modifications that enable the software to perform tasks it was previously incapable of performing. Software maintenance, training, data conversion and business process reengineering costs are expensed in the period in which they are incurred. See NOTE 10, "GOODWILL AND OTHER INTANGIBLE ASSETS," for additional information.

Warranty

We estimate and record a liability for base warranty programs at the time our products are sold. Our estimates are based on historical experience and reflect management's best estimates of expected costs at the time products are sold and subsequent adjustment to those expected costs when actual costs differ. Factors considered in developing these estimates included component failure rates, repair costs and the point of failure within the product life cycle. As a result of the uncertainty surrounding the nature and frequency of product campaigns, the liability for such campaigns is recorded when we commit to a recall action or when a recall becomes probable and estimable, which generally occurs when it is announced. The liability for these campaigns is reflected in the provision for product campaigns. We review and assess the liability for these programs on a quarterly basis. We also assess our ability to recover certain costs from our suppliers and record a receivable when we believe a recovery is probable. In addition to costs incurred on warranty and product campaigns, from time to time we also incur costs related to customer satisfaction programs for items not covered by warranty. We accrue for these costs when agreement is reached with a specific customer. These costs are not included in the provision for warranties, but are included in cost of sales. In addition, we sell extended warranty coverage on most of our engines. See Extended Warranty policy discussion above and NOTE 14, "PRODUCT WARRANTY LIABILITY," for additional information.

Contingent Liabilities

We record an accrual for contingent liabilities when the amounts are probable and estimable. As the cash flow associated with most of our contingent liabilities can not be reasonably predicted, we record our estimated obligations on an undiscounted basis. In addition, our accrual does not include amounts for estimated legal defense costs as those are expensed in the period in which they are incurred.

Research and Development

Our research and development programs are focused on product improvements, product extensions, innovations and cost reductions for our customers. Research and development expenditures include salaries, contractor fees, building costs, utilities, testing, technical information technology expenses, administrative expenses and allocation of corporate costs and are expensed, net of contract reimbursements, when incurred. From time to time, we enter into agreements with customers and government agencies to fund a portion of the research and development costs of a particular project. When not associated with a sales contract, we generally account for these reimbursements as an offset to the related research and development expenditure. Research and development expenses, net of contract reimbursements, were $1.4 billion, $1.2 billion and $1.1 billion for the years ended December 31, 2023, 2022 and 2021, respectively. Contract reimbursements were $81 million, $110 million and $104 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Related Party Transactions

In accordance with the provisions of various joint venture agreements, we may purchase products and components from our joint ventures, sell products and components to our joint ventures and our joint ventures may sell products and components to unrelated parties. Joint venture transfer prices may differ from normal selling prices. Certain joint venture agreements transfer product at cost, some transfer product on a cost-plus basis, and others transfer product at market value.

The following is a summary of sales to and purchases from nonconsolidated equity investees:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Sales to nonconsolidated equity investees	**$ 1,548**	$ 1,197	$ 1,713
Purchases from nonconsolidated equity investees	**2,628**	1,838	1,796

The following is a summary of accounts receivable from and accounts payable to nonconsolidated equity investees:

In millions	**December 31, 2023**	**December 31, 2022**	**Balance Sheet Location**
Accounts receivable from nonconsolidated equity investees	**$ 530**	$ 376	Accounts and notes receivable, net
Accounts payable to nonconsolidated equity investees	**324**	292	Accounts payable (principally trade)

Supply Chain Financing

We currently have supply chain financing programs with financial intermediaries, which provide certain vendors the option to be paid by financial intermediaries earlier than the due date on the applicable invoice. When a vendor utilizes the program and receives an early payment from a financial intermediary, they take a discount on the invoice. We then pay the financial intermediary the face amount of the invoice on the original due date, which generally have 60 to 90 day payment terms. The maximum amount that we could have outstanding under the program was $512 million at December 31, 2023. We do not reimburse vendors for any costs they incur for participation in the program, their participation is completely voluntary and there are no assets pledged as security or other forms of guarantees provided for the committed payment to the finance provider or intermediary. As a result, all amounts owed to the financial intermediaries are presented as accounts payable in our Consolidated Balance Sheets. Amounts due to the financial intermediaries reflected in accounts payable at December 31, 2023, and 2022, were $199 million and $331 million, respectively.

The following table summarizes the changes in amounts due to financial intermediaries reflected in accounts payable for the year ended December 31, 2023:

In millions		
Balance at December 31, 2022	**$**	**331**
Additional invoices presented for payment		**1,141**
Payments to financial intermediaries		**(1,274)**
Foreign currency translation adjustments and other		**1**
Balance at December 31, 2023	**$**	**199**

Government Assistance

From time to time, we receive assistance from government agencies primarily related to two areas (1) expense reimbursement and funding grants in the form of cash in conjunction with research and development projects and (2) incentives primarily related to investments in new or existing facilities. The grants and related projects range in term from 1 to 6 years. Generally, the grant awards for research are payable to us when we achieve specific milestones or deliverables. Certain grant awards are subject to audit, whereby non-compliance may result in a refund to the government agency. Grants related to investments supporting facilities are typically in the form of reimbursement for capital assets or expenses such as training the employees at those facilities.

We recognize grant awards related to research and development as an offset of the related research and development expenditure when the awards become payable upon us meeting a specific milestone or deliverable. We recognize grant awards for reimbursement of capital as a reduction in value of the related fixed asset. We recognize grants for reimbursement of training or other expenses as an offset to the related expense. For the years ended December 31, 2023, and 2022, government grants did not have a material impact on our financial statements as a whole, and we did not have any individually material grant awards.

RECENTLY ADOPTED AND RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

Accounting Pronouncements Recently Adopted

In September 2022, the Financial Accounting Standards Board (FASB) issued a standard related to the disclosure of additional information about the use of supplier finance programs. Under the new standard, entities are required to disclose (1) key terms of the programs, (2) the amount outstanding that remains unpaid as of the end of the period, including where amounts are recorded in the balance sheets and (3) an annual rollforward of those obligations, including the amount of obligations confirmed and the amount of obligations subsequently paid. We adopted the new standard on January 1, 2023, on a retrospective basis other than the rollforward, which we adopted on a prospective basis beginning with our 2023 annual financial statements. The adoption did not have a material impact on our financial statements. See "Supply Chain Financing" section above for additional information.

Accounting Pronouncements Issued But Not Yet Effective

In November 2023, the FASB issued Accounting Standards Update (ASU) 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures," to enhance disclosures for significant segment expenses for all public entities required to report segment information in accordance with ASC 280. The standard did not change the definition of a segment, the method for determining segments or the criteria for aggregating operating segments into reportable segments. The amendments are effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Retrospective adoption is required for all prior periods presented in the financial statements. We plan to adopt the standard beginning with our 2024 Form 10-K. The adoption is not expected to have a material impact to our financial statements or disclosures.

In December 2023, the FASB issued ASU 2023-09, "Income Taxes (Topic 740): Improvements in Income Tax Disclosures" to enhance the transparency and decision usefulness of income tax disclosures. This amendment requires public companies to disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. Additionally, under the amendment entities are required to disclose the amount of income taxes paid disaggregated by federal, state and foreign taxes, as well as disaggregated by material individual jurisdictions. Finally, the amendment requires entities to disclose income from continuing operations before income tax expense disaggregated between domestic and foreign and income tax expense from continuing operations disaggregated by federal, state and foreign. The new rules are effective for annual periods beginning after December 15, 2024. We will adopt this standard on a prospective basis as allowed by the standard. The adoption of this standard is not expected to have a material impact on our Consolidated Financial Statements.

NOTE 2. AGREEMENT IN PRINCIPLE

In December 2023, we announced that we reached an agreement in principle with the Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the Environmental and Natural Resources Division of the U.S. Department of Justice (DOJ) and the California Attorney General’s Office (CA AG) to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S (collectively, the Agreement in Principle). As part of the Agreement in Principle, among other things, we agreed to pay civil penalties, complete recall requirements, undertake mitigation projects, provide extended warranties, undertake certain testing, take certain corporate compliance measures and make certain payments. Failure to comply with the terms and conditions of the Agreement in Principle will subject us to further stipulated penalties. We recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. The charge is included in other operating expense, net, in our Consolidated Statements of Net Income. See NOTE 15, "COMMITMENTS AND CONTINGENCIES," for further information.

The majority of the amount is expected to be paid in 2024 after final regulatory and judicial approvals are obtained. As a result, $1.938 billion is included in other current liabilities in our Consolidated Balance Sheets with the remainder included in other long-term liabilities. Of the total charge, $1.732 billion (primarily related to penalties) will be non-deductible for U.S. federal income tax purposes. The remaining amount, related to emissions mitigation projects and payments, extended warranties and other related compliance expenses is deductible for U.S. federal income tax purposes.

NOTE 3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Long-term Contracts

We have certain arrangements, primarily long-term maintenance agreements, construction contracts, product sales with associated performance obligations extending beyond a year, product sales with lead times extending beyond one year that are non-cancellable or for which the customer incurs a penalty for cancellation and extended warranty coverage arrangements that span a period in excess of one year. The aggregate amount of the transaction price for these contracts, excluding extended warranty coverage arrangements, as of December 31, 2023, was $2.1 billion. We expect to recognize the related revenue of $1.0 billion over the next 12 months and $1.1 billion over periods up to 10 years. See NOTE 14,"PRODUCT WARRANTY LIABILITY," for additional disclosures on extended warranty coverage arrangements. Our other contracts generally are for a duration of less than one year, include payment terms that correspond to the timing of costs incurred when providing goods and services to our customers or represent sales-based royalties.

Deferred and Unbilled Revenue

The following is a summary of our unbilled and deferred revenue and related activity:

	December 31,	
In millions	**2023**	**2022**
Unbilled revenue	**$ 303**	$ 257
Deferred revenue	**2,186**	1,848

We recognized revenue of $733 million and $639 million in 2023 and 2022, respectively, that was included in the deferred revenue balance at the beginning of each year. We did not record any impairment losses on our unbilled revenues during 2023 or 2022.

Disaggregation of Revenue

The table below presents our consolidated sales by geographic area. Net sales attributed to geographic areas were based on the location of the customer.

In millions	Years ended December 31, 2023	2022	2021
United States [1]	**$ 19,302**	$ 15,833	$ 12,489
China	**3,115**	2,390	3,169
India	**1,678**	1,392	1,133
Other international [1]	**9,970**	8,459	7,230
Total net sales	**$ 34,065**	$ 28,074	$ 24,021

[1] We revised $281 million from other international to United States for the year ended December 31, 2022.

Segment Revenue

As previously announced, our Components segment reorganized its reporting structure to carve out the electronics business into the newly formed software and electronics business and combined the turbo technologies and fuel systems businesses into the newly formed engine components business. We started reporting results for the reorganized business in the first quarter of 2023 and reflected these changes for prior periods. On May 26, 2023, with the Atmus Filtration Technologies Inc. (Atmus) initial public offering (IPO), we changed the name of our Components' filtration business to Atmus. See NOTE 23, "FORMATION OF ATMUS AND IPO," for additional information.

Components segment external sales by business were as follows:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Axles and brakes	**$ 4,822**	$ 1,879	$ —
Emission solutions	**3,425**	3,086	3,142
Atmus	**1,345**	1,259	1,171
Engine components	**1,119**	946	1,019
Automated transmissions	**714**	593	481
Software and electronics	**106**	84	119
Total sales	**$ 11,531**	$ 7,847	$ 5,932

Engine segment external sales by market were as follows:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Heavy-duty truck	**$ 3,391**	$ 2,995	$ 2,511
Medium-duty truck and bus	**2,622**	2,412	1,978
Light-duty automotive	**1,748**	1,704	1,845
Total on-highway	**7,761**	7,111	6,334
Off-highway	**1,113**	1,088	1,255
Total sales	**$ 8,874**	$ 8,199	$ 7,589

As previously announced, due to the indefinite suspension of operations in Russia, we reorganized the regional management structure of our Distribution segment and moved all Commonwealth of Independent States (CIS) sales into the Europe and Africa and Middle East regions. The Russian portion of prior period CIS sales moved to the Europe region. We started to report results for our new regional management structure in the first quarter of 2023 and reflected these changes for historical periods.

Distribution segment external sales by region were as follows:

	Years ended December 31,		
In millions	2023	2022	2021
North America	**$ 7,054**	$ 5,948	$ 4,902
Asia Pacific	**1,091**	1,011	901
Europe	**848**	914	962
China	**424**	351	323
Africa and Middle East	**294**	250	278
India	**264**	217	194
Latin America	**224**	210	182
Total sales	**$ 10,199**	$ 8,901	$ 7,742

Distribution segment external sales by product line were as follows:

	Years ended December 31,		
In millions	2023	2022	2021
Parts	**$ 4,052**	$ 3,809	$ 3,136
Power generation	**2,496**	1,767	1,754
Engines	**1,987**	1,770	1,493
Service	**1,664**	1,555	1,359
Total sales	**$ 10,199**	$ 8,901	$ 7,742

Power Systems segment external sales by product line were as follows:

In millions	Years ended December 31, 2023	2022	2021
Power generation	**$ 1,698**	$ 1,658	$ 1,481
Industrial	**970**	843	820
Generator technologies	**457**	450	349
Total sales	**$ 3,125**	$ 2,951	$ 2,650

NOTE 4. INVESTMENTS IN EQUITY INVESTEES

Investments and advances related to equity method investees and our ownership percentages were as follows:

Dollars in millions	Ownership percentage	December 31, 2023	2022
Komatsu alliances	20-50%	**$ 331**	$ 295
Beijing Foton Cummins Engine Co., Ltd.	50%	**194**	189
Sisamex	50%	**149**	144
Dongfeng Cummins Engine Company, Ltd.	50%	**128**	106
Automotive Axles Limited	36%	**125**	125
Chongqing Cummins Engine Company, Ltd.	50%	**110**	118
Tata Cummins, Ltd.	50%	**89**	92
Cummins-Scania XPI Manufacturing, LLC	50%	**85**	130
Freios Master	49%	**84**	86
Other	Various	**505**	474
Investments and advances related to equity method investees		**$ 1,800**	$ 1,759

We have approximately $936 million in our investment account at December 31, 2023, that represents cumulative undistributed income in our equity investees. Dividends received from our unconsolidated equity investees were $257 million, $318 million and $336 million in 2023, 2022 and 2021, respectively.

Equity, royalty and interest income from investees, net of applicable taxes, was as follows:

In millions	Years ended December 31, 2023	2022	2021
Manufacturing entities			
Dongfeng Cummins Engine Company, Ltd.	**$ 65**	$ 45	$ 82
Beijing Foton Cummins Engine Co., Ltd.	**47**	37	112
Chongqing Cummins Engine Company, Ltd.	**36**	32	39
Tata Cummins, Ltd.	**29**	27	18
All other manufacturers	**91**	28 [1]	131
Distribution entities			
Komatsu Cummins Chile, Ltda.	**55**	44	32
All other distributors	**16**	11	10
Cummins share of net income	**339**	224	424
Royalty and interest income	**144**	125	82
Equity, royalty and interest income from investees	**$ 483**	$ 349	$ 506

[1] Includes a $28 million impairment of our joint venture with KAMAZ and $3 million of royalty charges as part of our costs associated with the indefinite suspension of our Russian operations. In addition, on February 7, 2022, we purchased Westport Fuel System Inc.'s stake in Westport JV. See NOTE 24, "ACQUISITIONS," and NOTE 22, "RUSSIAN OPERATIONS," for additional information.

Manufacturing Entities

Our manufacturing joint ventures were generally formed with customers and are primarily intended to allow us to increase our market penetration in geographic regions, reduce capital spending, streamline our supply chain management and develop technologies. Our largest manufacturing joint ventures are based in China and are included in the list below. Our engine manufacturing joint ventures are supplied by our Components segment in the same manner as it supplies our wholly-owned Engine segment and Power Systems segment manufacturing facilities. Our Components segment joint ventures and wholly-owned entities provide axles, drivelines, brakes and suspension systems for commercial diesel and natural gas applications, aftertreatment systems, turbochargers, fuel systems, filtration products, automated transmissions and electronics that are used with our engines as well as some competitors' products. The results and investments in our joint ventures in which we have 50 percent or less ownership interest (except for Eaton Cummins Automated Transmission Technologies joint venture, which is consolidated due to our majority voting interest) are included in equity, royalty and interest income from investees and investments and advances related to equity method investees in our Consolidated Statements of Net Income and Consolidated Balance Sheets, respectively.

- **Dongfeng Cummins Engine Company, Ltd. -** Dongfeng Cummins Engine Company, Ltd. (DCEC) is a joint venture in China with Dongfeng Automotive Co. Ltd., a subsidiary of Dongfeng Motor Corporation and one of the largest medium-duty and heavy-duty truck manufacturers in China. DCEC produces 3.9 liter to 14.5 liter diesel engines with a power range from 80 to 760 horsepower, natural gas engines and automated transmissions. On-highway engines are used in multiple applications in light-duty and medium-duty trucks, special purpose vehicles, buses and heavy-duty trucks with a main market in China. Off-highway engines are used in a variety of construction, power generation, marine and agriculture markets in China.

- **Beijing Foton Cummins Engine Co., Ltd. -** Beijing Foton Cummins Engine Co., Ltd. is a joint venture in China with Beiqi Foton Motor Co., Ltd., a commercial vehicle manufacturer, which has two distinct lines of business - a light-duty business and a heavy-duty business. The light-duty business produces our families of ISF 2.5 liter to 4.5 liter high performance light-duty diesel engines in Beijing. These engines are used in light-duty and medium-duty commercial trucks, pick-up trucks, buses, multipurpose and sport utility vehicles with main markets in China and Brazil. Certain types of small construction equipment and industrial applications are also served by these engine families. The heavy-duty business produces 8.5 liter to 14.5 liter high performance heavy-duty diesel and natural gas engines in Beijing. Certain types of construction equipment and industrial applications are also served by these engine families.

- **Chongqing Cummins Engine Company, Ltd. -** Chongqing Cummins Engine Company, Ltd. is a joint venture in China with Chongqing Machinery and Electric Co. Ltd. This joint venture manufactures several models of our heavy-duty and high-horsepower diesel engines primarily serving the industrial and stationary power markets in China.

- **Tata Cummins, Ltd. -** Tata Cummins, Ltd. is a joint venture in India with Tata Motors Ltd., the largest automotive company in India and a member of the Tata group of companies. This joint venture manufactures Cummins' 3.8 to 8.9 liter diesel and natural gas engines in India with a power range from 75 to 400 horsepower for use in trucks and buses manufactured by Tata Motors, as well as for various on-highway, industrial and power generation applications for Cummins.

In September 2023, our Accelera business signed an agreement to form a joint venture with Daimler Trucks and Buses US Holding LLC (Daimler Truck), PACCAR Inc. (PACCAR) and EVE Energy to accelerate and localize battery cell production and the battery supply chain in the U.S., including building a 21-gigawatt hour battery production facility in Marshall County, Mississippi. The joint venture will manufacture battery cells for electric commercial vehicles and industrial applications. Accelera, Daimler Truck and PACCAR will each own 30 percent of the joint venture, while EVE Energy will own 10 percent. Total investment by the partners is expected to be in the range of $2 billion to $3 billion for the 21-gigawatt hour facility. The transaction is subject to closing conditions and receipt of applicable merger control and regulatory approvals including submission of a voluntary notice to the Committee on Foreign Investment in the U.S.

Distribution Entities

We have an extensive worldwide distributor and dealer network through which we sell and distribute our products and services. Generally, our distributors are divided by geographic region with some of our distributors being wholly-owned by Cummins, some partially-owned and some independently owned. We consolidate all wholly-owned distributors and partially-owned distributors where we are the primary beneficiary and account for other partially-owned distributors using the equity method of accounting.

Komatsu Cummins Chile, Ltda. - Komatsu Cummins Chile, Ltda. is a joint venture with Komatsu America Corporation. The joint venture is a distributor that offers the full range of our products and services to customers and end-users in Chile and Peru.

In certain cases where we own a partial interest in a distributor, we may be obligated to purchase the other equity holders' interests if certain events occur (such as the death or resignation of the distributor principal or a change in control of Cummins Inc.). The purchase consideration of the equity interests may be determined based on the fair value of the distributor's assets. Repurchase obligations and practices vary by geographic region.

All distributors that are partially-owned are considered to be related parties in our Consolidated Financial Statements.

Equity Investee Financial Summary

Summary financial information for our equity investees was as follows:

	Years ended and at December 31,		
In millions	**2023**	**2022**	**2021**
Net sales	**$ 9,998**	$ 7,501	$ 8,934
Gross margin	**1,597**	1,211	1,574
Net income	**677**	475	802
Cummins share of net income	**$ 339**	$ 224	$ 424
Royalty and interest income	**144**	125	82
Total equity, royalty and interest from investees	**$ 483**	$ 349	$ 506
Current assets	**$ 4,922**	$ 4,252	
Long-term assets	**2,021**	1,935	
Current liabilities	**(3,812)**	(3,224)	
Long-term liabilities	**(432)**	(399)	
Net assets	**$ 2,699**	$ 2,564	
Cummins share of net assets	**$ 1,786**	$ 1,715	

NOTE 5. INCOME TAXES

The following table summarizes income before income taxes:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
U.S. (loss) income	**$ (541)**	$ 1,336	$ 1,251
Foreign income	**2,167**	1,483	1,500
Income before income taxes	**$ 1,626**	$ 2,819	$ 2,751

Income tax expense (benefit) consisted of the following:

In millions	Years ended December 31, 2023	2022	2021
Current			
U.S. federal and state	**$ 611**	$ 425	$ 261
Foreign	**632**	485	319
Total current income tax expense	**1,243**	910	580
Deferred			
U.S. federal and state	**(468)**	(229)	(12)
Foreign	**11**	(45)	19
Total deferred income tax (benefit) expense	**(457)**	(274)	7
Income tax expense	**$ 786**	$ 636	$ 587

A reconciliation of the statutory U.S. federal income tax rate to the effective tax rate was as follows:

	Years ended December 31,		
	2023	**2022**	**2021**
Statutory U.S. federal income tax rate	**21.0 %**	21.0 %	21.0 %
State income tax, net of federal effect	**(0.4)**	1.3	1.1
Differences in rates and taxability of foreign subsidiaries and joint ventures [(1)]	**11.9**	3.1	0.1
Research tax credits	**(4.7)**	(1.8)	(0.6)
Foreign derived intangible income	**(4.2)**	(2.0)	(1.0)
Agreement in Principle, federal impact [(2)]	**22.4**	—	—
Agreement in Principle, state impact [(2)]	**2.1**	—	—
Other, net	**0.2**	1.0	0.7
Effective tax rate	**48.3 %**	22.6 %	21.3 %

[(1)] Includes the jurisdictional mix of pre-tax income and impact of actual and planned repatriation of earnings back to the U.S.

[(2)] See NOTE 2, "AGREEMENT IN PRINCIPLE," for additional information.

The year ended December 31, 2023, contained unfavorable net discrete items of $397 million, primarily due to $398 million in the fourth quarter related to the $2.0 billion charge from the Agreement in Principle, $22 million of unfavorable adjustments for uncertain tax positions and $3 million of net unfavorable other discrete tax items, partially offset by $21 million of favorable return to provision adjustments and $5 million of favorable share-based compensation tax benefit. See NOTE 2, "AGREEMENT IN PRINCIPLE," for additional information.

The year ended December 31, 2022, contained discrete tax items that netted to zero, primarily due to $31 million of favorable changes in accrued withholding taxes, $29 million of favorable changes in tax reserves, $15 million of favorable valuation allowance adjustments and $9 million of favorable other net discrete items, offset by $69 million of unfavorable tax costs associated with internal restructuring ahead of the planned separation of Atmus and $15 million of unfavorable return to provision adjustments related to the 2021 filed tax returns.

The year ended December 31, 2021, contained $9 million of unfavorable net discrete tax items, primarily due to $12 million of unfavorable provision to return adjustments related to the 2020 filed tax returns, partially offset by $3 million of favorable other discrete tax items.

At December 31, 2023, $6.0 billion of non-U.S. earnings are considered indefinitely reinvested in operations outside the U.S. for which deferred taxes were not provided. Determination of the related deferred tax liability, if any, is not practicable because of the complexities associated with the hypothetical calculation.

Carryforward tax benefits and the tax effect of temporary differences between financial and tax reporting that give rise to net deferred tax assets (liabilities) were as follows:

	December 31,	
In millions	**2023**	**2022**
Deferred tax assets		
U.S. and state carryforward benefits	**$ 272**	$ 272
Foreign carryforward benefits	**609**	527
Employee benefit plans	**347**	258
Warranty expenses	**483**	458
Lease liabilities	**125**	110
Capitalized research and development expenditures	**591**	238
Accrued expenses	**253**	174
Other	**78**	126
Gross deferred tax assets	**2,758**	2,163
Valuation allowance	**(789)**	(704)
Total deferred tax assets	**1,969**	1,459
Deferred tax liabilities		
Property, plant and equipment	**(367)**	(369)
Unremitted income of foreign subsidiaries and joint ventures	**(179)**	(210)
Employee benefit plans	**(278)**	(311)
Lease assets	**(123)**	(108)
Intangible assets	**(406)**	(435)
Other	**(64)**	(50)
Total deferred tax liabilities	**(1,417)**	(1,483)
Net deferred tax (liabilities) assets	**$ 552**	$ (24)

Our 2023 U.S. carryforward benefits include $272 million of state credit and net operating loss carryforward benefits that begin to expire in 2024. Our foreign carryforward benefits include $609 million of net operating loss carryforwards that begin to expire in 2024. A valuation allowance is recorded to reduce the gross deferred tax assets to an amount we believe is more likely than not to be realized. The valuation allowance is $789 million and increased in 2023 by a net $85 million. The valuation allowance is primarily attributable to the uncertainty regarding the realization of a portion of the U.S. state and foreign net operating loss and tax credit carryforward benefits.

Our Consolidated Balance Sheets contain the following tax related items:

In millions	December 31, 2023	December 31, 2022
Prepaid expenses and other current assets		
Refundable income taxes	**$ 81**	$ 83
Other assets		
Deferred income tax assets	**1,082**	625
Long-term refundable income taxes	**27**	14
Other accrued expenses		
Income tax payable	**242**	173
Other liabilities		
Long-term income taxes	**111**	192
Deferred income tax liabilities	**530**	649

A reconciliation of unrecognized tax benefits for the years ended December 31, 2023, 2022 and 2021 was as follows:

	December 31,		
In millions	**2023**	**2022**	**2021**
Balance at beginning of year	**$ 283**	$ 89	$ 122
Additions to tax positions due to acquisitions	**8**	189	—
Additions to current year tax positions	**21**	17	11
Additions to prior years' tax positions	**19**	17	16
Reductions to prior years' tax positions	**(1)**	(1)	(28)
Reductions for tax positions due to settlements with taxing authorities	**—**	(28)	(32)
Balance at end of year	**$ 330**	$ 283	$ 89

Included in the December 31, 2023, 2022 and 2021, balances are $314 million, $270 million and $85 million, respectively, related to tax positions that, if recognized, would favorably impact the effective tax rate in future periods. We also accrued interest expense related to the unrecognized tax benefits of $33 million, $18 million and $15 million as of December 31, 2023, 2022 and 2021, respectively. We recognize potential accrued interest and penalties related to unrecognized tax benefits in income tax expense.

Audit outcomes and the timing of audit settlements are subject to significant uncertainty. Although we believe that adequate provision has been made for such issues, there is the possibility that the ultimate resolution of such issues could have an adverse effect on our earnings. Conversely, if these issues are resolved favorably in the future, the related provision would be reduced, thus having a positive impact on earnings.

As a result of our global operations, we file income tax returns in various jurisdictions including U.S. federal, state and foreign jurisdictions. We are routinely subject to examination by taxing authorities throughout the world, including Australia, Belgium, Brazil, Canada, China, France, India, Mexico, the U.K. and the U.S. With few exceptions, our U.S. federal, major state and foreign jurisdictions are no longer subject to income tax assessments for years before 2018.

NOTE 6. MARKETABLE SECURITIES

A summary of marketable securities, all of which are classified as current, was as follows:

	December 31,					
	2023			2022		
In millions	Cost	Gross unrealized gains/ (losses) [1]	Estimated fair value	Cost	Gross unrealized gains/ (losses) [1]	Estimated fair value
Equity securities						
Debt mutual funds	**$ 272**	**$ —**	**$ 272**	$ 238	$ (5)	$ 233
Certificates of deposit	**246**	**—**	**246**	209	—	209
Equity mutual funds	**22**	**6**	**28**	25	3	28
Debt securities	**16**	**—**	**16**	2	—	2
Marketable securities	**$ 556**	**$ 6**	**$ 562**	$ 474	$ (2)	$ 472

[1] Unrealized gains and losses for debt securities are recorded in other comprehensive income while unrealized gains and losses for equity securities are recorded in our Consolidated Statements of Net Income.

All debt securities are classified as available-for-sale. All marketable securities presented use a Level 2 fair value measure. The fair value of Level 2 securities is estimated using actively quoted prices for similar instruments from brokers and observable inputs where available, including market transactions and third-party pricing services, or net asset values provided to investors. We do not currently have any Level 3 securities, and there were no transfers between Level 2 or 3 during 2023 or 2022.

A description of the valuation techniques and inputs used for our Level 2 fair value measures is as follows:

- Debt mutual funds— The fair value measures for the vast majority of these investments are the daily net asset values published on a regulated governmental website. Daily quoted prices are available from the issuing brokerage and are used on a test basis to corroborate this Level 2 input measure.

- Certificates of deposit— These investments provide us with a contractual rate of return and generally range in maturity from three months to five years. The counterparties to these investments are reputable financial institutions with investment grade credit ratings. Since these instruments are not tradable and must be settled directly by us with the respective financial institution, our fair value measure is the financial institution's month-end statement.

- Equity mutual funds— The fair value measures for these investments are the net asset values published by the issuing brokerage. Daily quoted prices are available from reputable third-party pricing services and are used on a test basis to corroborate this Level 2 input measure.

- Debt securities— The fair value measures for these securities are broker quotes received from reputable firms. These securities are infrequently traded on a national exchange and these values are used on a test basis to corroborate our Level 2 input measure.

The proceeds from sales and maturities of marketable securities were as follows:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Proceeds from sales of marketable securities	**$ 1,075**	$ 750	$ 494
Proceeds from maturities of marketable securities	**259**	401	179
Investments in marketable securities - liquidations	**$ 1,334**	$ 1,151	$ 673

NOTE 7. INVENTORIES

Inventories are stated at the lower of cost or net realizable value. Inventories included the following:

	December 31,	
In millions	**2023**	**2022**
Finished products	**$ 2,770**	$ 2,917
Work-in-process and raw materials	**3,156**	2,926
Inventories at FIFO cost	**5,926**	5,843
Excess of FIFO over LIFO	**(249)**	(240)
Inventories	**$ 5,677**	$ 5,603

NOTE 8. PROPERTY, PLANT AND EQUIPMENT

Details of our property, plant and equipment balance were as follows:

In millions	December 31, 2023	December 31, 2022
Land and buildings	**$ 3,039**	$ 2,908
Machinery, equipment and fixtures	**7,245**	6,598
Construction in process	**1,390**	1,001
Property, plant and equipment, gross	**11,674**	10,507
Less: Accumulated depreciation	**(5,425)**	(4,986)
Property, plant and equipment, net	**$ 6,249**	$ 5,521

NOTE 9. LEASES

Our lease portfolio consists primarily of real estate and equipment leases. Our real estate leases primarily consist of land, office, distribution, warehousing and manufacturing facilities. These leases typically range in term from 2 to 50 years and may contain renewal options for periods up to 10 years at our discretion. Our equipment lease portfolio consists primarily of vehicles (including service vehicles), fork trucks and IT equipment. These leases typically range in term from two to three years and may contain renewal options. Our leases generally do not contain variable lease payments other than (1) certain foreign real estate leases which have payments indexed to inflation and (2) certain real estate executory costs (such as taxes, insurance and maintenance), which are paid based on actual expenses incurred by the lessor during the year. Our leases generally do not include residual value guarantees other than our service vehicle fleet, which has a residual guarantee based on a percentage of the original cost declining over the lease term.

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The components of our lease cost were as follows:

	Years ended December 31,		
In millions	2023	2022	2021
Operating lease cost	**$ 165**	$ 160	$ 172
Finance lease cost			
Amortization of right-of-use asset	**20**	19	16
Interest expense	**4**	4	4
Short-term lease cost	**24**	23	18
Variable lease cost	**14**	12	11
Total lease cost	**$ 227**	$ 218	$ 221

Supplemental balance sheet information related to leases:

	December 31,		
In millions	2023	2022	Balance Sheet Location
Assets			
Operating lease assets	**$ 501**	$ 492	Other assets
Finance lease assets [1]	**115**	117	Property, plant and equipment, net
Total lease assets	**$ 616**	$ 609	
Liabilities			
Current			
Operating lease liabilities	**$ 138**	$ 132	Other accrued expenses
Finance lease liabilities	**17**	32	Current maturities of long-term debt
Long-term			
Operating lease liabilities	**374**	368	Other liabilities
Finance lease liabilities	**94**	81	Long-term debt
Total lease liabilities	**$ 623**	$ 613	

[1] Finance lease assets were recorded net of accumulated amortization of $77 million and $78 million at December 31, 2023 and 2022.

Supplemental cash flow and other information related to leases:

In millions	Years ended December 31, 2023	2022	2021
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	**$ 148**	$ 151	$ 159
Operating cash flows from finance leases	**4**	4	4
Financing cash flows from finance leases	**35**	16	14
Right-of-use assets obtained in exchange for lease obligations			
Operating leases	**$ 153**	$ 148	$ 160
Finance leases	**12**	29	13

Additional information related to leases:

	December 31,	
	2023	**2022**
Weighted-average remaining lease term (in years)		
Operating leases	**5.2**	5.4
Finance leases	**8.6**	7.9
Weighted-average discount rate		
Operating leases	**4.2 %**	3.7 %
Finance leases	**5.0 %**	4.7 %

Following is a summary of the future minimum lease payments related to finance and operating leases with terms of more than one year at December 31, 2023, together with the net present value of the minimum payments:

In millions	**Finance Leases**	**Operating Leases**
2024	$ 23	$ 155
2025	19	126
2026	15	92
2027	13	68
2028	12	45
After 2028	56	90
Total minimum lease payments	138	576
Interest	(27)	(64)
Present value of net minimum lease payments	$ 111	$ 512

NOTE 10. GOODWILL AND OTHER INTANGIBLE ASSETS

The following table summarizes the changes in the carrying amount of goodwill for the years ended December 31, 2023 and 2022:

In millions	Components	Accelera	Distribution	Power Systems	Engine	Total
Balance at December 31, 2021	$ 934	$ 257	$ 79	$ 11	$ 6	$ 1,287
Acquisitions	835	237	—	—	—	1,072
Foreign currency translation and other	(17)	1	—	—	—	(16)
Balance at December 31, 2022	1,752	495	79	11	6	2,343
Acquisitions	**122**	**—**	**4**	**—**	**18**	**144**
Foreign currency translation and other	**10**	**1**	**—**	**—**	**1**	**12**
Balance at December 31, 2023	**$ 1,884**	**$ 496**	**$ 83**	**$ 11**	**$ 25**	**$ 2,499**

Intangible assets that have finite useful lives are amortized over their estimated useful lives. The following table summarizes our other intangible assets with finite useful lives that are subject to amortization:

In millions	December 31, 2023	2022
Software	**$ 622**	$ 679
Less: Accumulated amortization	**(323)**	(410)
Software, net	**299**	269
Trademarks, patents, customer relationships and other	**2,886**	2,858
Less: Accumulated amortization	**(666)**	(440)
Trademarks, patents, customer relationships and other, net	**2,220**	2,418
Other intangible assets, net	**$ 2,519**	$ 2,687

Amortization expense for software and other intangibles totaled $324 million, $223 million and $144 million for the years ended December 31, 2023, 2022 and 2021, respectively. The projected amortization expense of our intangible assets, assuming no further acquisitions or dispositions, is as follows:

In millions	2024	2025	2026	2027	2028
Projected amortization expense	$ 323	$ 299	$ 281	$ 260	$ 233

NOTE 11. PENSIONS AND OTHER POSTRETIREMENT BENEFITS

Pension Plans

We sponsor several pension plans covering substantially all employees. Generally, pension benefits for salaried employees are determined as a function of employee’s compensation. Pension benefits for most hourly employees are determined similarly and as a function of employee’s compensation, with the exception of a small group of hourly employees whose pension benefits were grandfathered in accordance with agreements with their union representation and are based on their years of service and compensation during active employment. The level of benefits and terms of vesting may vary among plans and are offered in accordance with applicable laws. Pension plan assets are administered by trustees and are principally invested in fixed income securities and equity securities. It is our policy to make contributions to our various qualified plans in accordance with statutory and contractual funding requirements, and any additional contributions we determine are appropriate.

Obligations, Assets and Funded Status

Benefit obligation balances presented below reflect the projected benefit obligation (PBO) for our pension plans. The changes in the benefit obligations, the various plan assets, the funded status of the plans and the amounts recognized in our Consolidated Balance Sheets for our significant pension plans at December 31 were as follows:

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In millions	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
	2023	2022	2023	2022
Change in benefit obligation				
Benefit obligation at the beginning of the year	**$ 3,171**	$ 3,012	**$ 1,398**	$ 1,887
Service cost	**117**	137	**17**	30
Interest cost	**168**	101	**70**	39
Actuarial loss (gain)	**172**	(643)	**47**	(702)
Benefits paid from fund	**(223)**	(200)	**(87)**	(70)
Benefits paid directly by employer	**(25)**	(25)	**—**	—
Plan amendment	**1**	3	**—**	—
Assumption of Meritor's benefit obligation	**—**	786	**—**	418
Foreign currency translation adjustments	**—**	—	**80**	(204)
Benefit obligation at end of year	**$ 3,381**	$ 3,171	**$ 1,525**	$ 1,398
Change in plan assets				
Fair value of plan assets at beginning of year	**$ 3,828**	$ 3,548	**$ 1,670**	$ 2,390
Actual return on plan assets	**221**	(244)	**(51)**	(960)
Employer contributions	**—**	25	**90**	3
Benefits paid from fund	**(223)**	(200)	**(87)**	(70)
Assumption of Meritor's plan assets	**—**	699	**—**	565
Foreign currency translation adjustments	**—**	—	**98**	(258)
Fair value of plan assets at end of year	**$ 3,826**	$ 3,828	**$ 1,720**	$ 1,670
Funded status (including unfunded plans) at end of year	**$ 445**	$ 657	**$ 195**	$ 272
Amounts recognized in consolidated balance sheets				
Pension assets	**$ 1,002**	$ 1,126	**$ 195**	$ 272
Accrued compensation, benefits and retirement costs	**(27)**	(24)	**—**	—
Other liabilities	**(530)**	(445)	**—**	—
Net amount recognized	**$ 445**	$ 657	**$ 195**	$ 272
Amounts recognized in accumulated other comprehensive loss				
Net actuarial loss	**$ 493**	$ 273	**$ 606**	$ 402
Prior service cost	**8**	8	**8**	10
Net amount recognized	**$ 501**	$ 281	**$ 614**	$ 412

In addition to the pension plans in the above table, we also maintain less significant defined benefit pension plans in 15 other countries outside of the U.S. and the U.K. that comprise approximately 5 percent and 6 percent of our pension plan assets and benefit obligations, respectively, at December 31, 2023. These plans are reflected in other liabilities on our Consolidated Balance Sheets. In 2023 and 2022, we made $16 million and $12 million of contributions to these plans, respectively.

The following table summarizes the total accumulated benefit obligation (ABO), the ABO for defined benefit pension plans with ABO in excess of plan assets and the PBO for defined benefit pension plans with PBO in excess of plan assets:

	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
In millions	**2023**	**2022**	**2023**	**2022**
Total ABO	**$ 3,334**	$ 3,138	**$ 1,504**	$ 1,376
Plans with ABO in excess of plan assets				
ABO	**1,067**	1,044	**—**	—
Plans with PBO in excess of plan assets				
PBO	**1,116**	1,078	**—**	—

Components of Net Periodic Pension Cost (Income)

The following table presents the net periodic pension cost (income) under our plans for the years ended December 31:

	Qualified and Non-Qualified Pension Plans					
	U.S. Plans			U.K. Plans		
In millions	**2023**	**2022**	**2021**	**2023**	**2022**	**2021**
Service cost	**$ 117**	$ 137	$ 139	**$ 17**	$ 30	$ 33
Interest cost	**168**	101	79	**70**	39	30
Expected return on plan assets	**(277)**	(229)	(199)	**(105)**	(87)	(85)
Amortization of prior service cost	**2**	1	1	**1**	1	2
Recognized net actuarial loss	**8**	23	47	**—**	3	31
Net periodic pension cost (income)	**$ 18**	$ 33	$ 67	**$ (17)**	$ (14)	$ 11

Other changes in benefit obligations and plan assets recognized in other comprehensive loss (income) for the years ended December 31 were as follows:

In millions	**2023**	**2022**	**2021**
Amortization of prior service cost	**$ (3)**	$ (2)	$ (3)
Recognized net actuarial loss	**(8)**	(26)	(78)
Incurred prior service cost	**1**	3	—
Incurred actuarial loss (gain)	**432**	173	(368)
Foreign currency translation adjustments	**—**	—	5
Total recognized in other comprehensive loss (income)	**$ 422**	$ 148	$ (444)
Total recognized in net periodic pension cost and other comprehensive loss (income)	**$ 423**	$ 167	$ (366)

Assumptions

The table below presents various assumptions used in determining the PBO for each year and reflects weighted-average percentages for the various plans as follows:

	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
	2023	2022	2023	2022
Discount rate	**5.15 %**	5.55 %	**4.72 %**	4.99 %
Cash balance crediting rate	**4.55 %**	4.56 %	**—**	—
Compensation increase rate	**5.34 %**	5.35 %	**3.75 %**	3.75 %

The table below presents various assumptions used in determining the net periodic pension cost and reflects weighted-average percentages for the various plans as follows:

	Qualified and Non-Qualified Pension Plans					
	U.S. Plans			U.K. Plans		
	2023	2022	2021	2023	2022	2021
Discount rate	**5.55 %**	3.31 %	2.62 %	**4.99 %**	2.26 %	1.50 %
Expected return on plan assets	**7.00 %**	6.50 %	6.25 %	**5.00 %**	4.01 %	4.00 %
Compensation increase rate	**5.35 %**	2.71 %	2.72 %	**3.75 %**	3.75 %	3.75 %

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Plan Assets

Our investment policies in the U.S. and U.K. provide for the rebalancing of assets to maintain our long-term strategic asset allocation. We are committed to this long-term strategy and do not attempt to time the market. Given empirical evidence that asset allocation is critical, rebalancing of the assets has and continues to occur, maintaining the proper weighting of assets to achieve the expected total portfolio returns. We believe that our portfolio is highly diversified and does not have any significant exposure to concentration risk. The plan assets for our defined benefit pension plans do not include any of our common stock or corporate bonds.

U.S. Plan Assets

For the U.S. qualified pension plans, our assumption for the expected return is greatly influenced by our objective to match assets and liabilities and the increase in bond yields. Projected returns are based primarily on broad, publicly traded equity and fixed income indices and forward-looking estimates of active portfolio and investment management. We expect additional positive returns from this active investment management. Based on the historical returns and forward-looking return expectations, we elected an assumption of 7.25 percent in 2024.

To achieve these objectives, we established the following targets:

Asset Class	Plan Target
U.S. equities	8 %
Non-U.S. equities	3 %
Global equities	5 %
Total equities	16 %
Real assets	5 %
Private equity/ venture capital	5 %
Opportunistic credit	3 %
Fixed income	71 %
Total	100 %

The fixed income component of the plans is structured to represent a custom bond benchmark that will closely hedge the change in the value of our liabilities. This component is structured in such a way that its benchmark covers approximately 100 percent of the plans' exposure to changes in its discount rate (AA corporate bond yields). In order to achieve a hedge on more than the targeted 71 percent of plan assets invested in fixed income securities, our Benefits Policy Committee (BPC) permits the fixed income managers, other managers or the custodian/trustee to utilize derivative securities, as part of a liability driven investment strategy to further reduce the plans' risk of changes in interest rates.

However, all managers hired to manage assets for the trust are prohibited from using leverage unless approved by the BPC.

U.K. Plan Assets

The methodology used to determine the rate of return on the pension plan assets in the U.K. was based on establishing an equity-risk premium over current long-term bond yields adjusted based on target asset allocations. Our strategy with respect to our investments in these assets is to be invested in a suitable mixture of return-seeking assets such as equities, real estate and liability matching assets such as group annuity insurance contracts and duration matched bonds. Therefore, the risk and return balance of our U.K. asset portfolio should reflect a long-term horizon. To achieve these objectives, we established the following targets:

Asset Class	**Plan Target**
Equities	1 %
Property/secure income assets	8 %
Credit/bank loans	5 %
Diversified strategies	1 %
Private equity	5 %
Fixed income/insurance annuity	78 %
Cash	2 %
Total	100 %

As part of our strategy in the U.K. we have not prohibited the use of any financial instrument, including derivatives. As in the U.S. plans, derivatives may be used to better match liability duration and are not used in a speculative way. The fixed income component of our portfolio hedges approximately 79 percent of the plans' exposure to interest rates and 79 percent of the plans' exposure to inflation. Based on the above discussion, we elected an assumption of 5.00 percent in 2024.

Fair Value of U.S. Plan Assets

The fair values of U.S. pension plan assets by asset category were as follows:

	Fair Value Measurements at December 31, 2023			
In millions	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Equities				
U.S.	$ **73**	$ **—**	$ **—**	$ **73**
Non-U.S.	**36**	**—**	**—**	**36**
Fixed income				
Government debt		**157**	**—**	**157**
Corporate debt				
U.S.	**—**	**603**	**—**	**603**
Non-U.S.	**—**	**49**	**—**	**49**
Asset/mortgaged backed securities	**—**	**8**	**—**	**8**
Net cash equivalents [1]	**467**	**—**	**—**	**467**
Private markets and real assets [2]	**—**	**—**	**604**	**604**
Net plan assets subject to leveling	$ **576**	$ **817**	$ **604**	$ **1,997**
Pending trade/purchases/ sales				**(16)**
Accruals [3]				**10**
Investments measured at net asset value				**1,835**
Net plan assets				$ **3,826**

In millions	Fair Value Measurements at December 31, 2022 Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Equities				
U.S.	$ 118	$ —	$ —	$ 118
Non-U.S.	31	—	—	31
Fixed income				
Government debt	—	188	—	188
Corporate debt				
U.S.	—	423	—	423
Non-U.S.	12	41	—	53
Asset/mortgaged backed securities	7	—	—	7
Net cash equivalents [1]	499	9	—	508
Diversified strategies	14	—	—	14
Private markets and real assets [2]	—	—	641	641
Net plan assets subject to leveling	$ 681	$ 661	$ 641	$ 1,983
Accruals [3]				7
Investments measured at net asset value				1,838
Net plan assets				$ 3,828

(1) Cash equivalents include commercial paper, short-term government/agency, mortgage and credit instruments.

(2) The instruments in private markets and real assets, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by audited financial statements of the funds. Private markets include equity, venture capital and private credit instruments and funds. Real assets include real estate and infrastructure.

(3) Accruals include interest or dividends that were not settled at December 31.

Certain of our assets are valued based on their respective net asset value (NAV) (or its equivalent), as an alternative to estimated fair value due to the absence of readily available market prices. The fair value of each such investment category was as follows:

- U.S. and Non-U.S. Corporate Debt ($915 million and $938 million at December 31, 2023 and 2022, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

- U.S. and Non-U.S. Equities ($222 million and $224 million at December 31, 2023 and 2022, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

- Government Debt ($257 million and $227 million at December 31, 2023 and 2022, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

- Real Estate ($134 million and $154 million at December 31, 2023 and 2022, respectively) - This asset type represents different types of real estate including development property, industrial property, individual mortgages, office property, property investment companies and retail property. These funds are valued using NAVs and allow quarterly or more frequent redemptions.

- Asset/Mortgage Backed Securities ($307 million and $277 million at December 31, 2023 and 2022, respectively) - This asset type represents investments in fixed- and floating-rate loans. These funds are valued using NAVs and allow quarterly or more frequent redemptions.

- Diversified Strategies ($0 million and $18 million at December 31, 2023 and 2022, respectively) - These commingled funds invest in commodities, fixed income and equity securities. They have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

The reconciliation of Level 3 assets was as follows:

In millions	Fair Value Measurements Using Significant Unobservable Inputs (Level 3) Private Markets	Real Assets	Total
Balance at December 31, 2021	$ 471	$ 80	$ 551
Actual return on plan assets			
Unrealized gains on assets still held at the reporting date	6	19	25
Purchases, sales and settlements, net	(12)	(17)	(29)
Assumption of Meritor's plan assets	94	—	94
Balance at December 31, 2022	559	82	641
Actual return on plan assets			
Unrealized gains on assets still held at the reporting date	**6**	**(13)**	**(7)**
Purchases, sales and settlements, net	**(28)**	**(2)**	**(30)**
Balance at December 31, 2023	**$ 537**	**$ 67**	**$ 604**

Fair Value of U.K. Plan Assets

The fair values of U.K. pension plan assets by asset category were as follows:

	Fair Value Measurements at December 31, 2023			
In millions	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Total**
Equities				
U.S.	$ 12	$ —	$ —	$ 12
Non-U.S.	8	—	—	8
Fixed income				
Government debt	—	232	—	232
Corporate debt				
U.S.	—	30	—	30
Non-U.S.	—	95	—	95
Net cash equivalents (1)	17	18	—	35
Insurance annuity	—	—	436	436
Private markets and real assets (2)	—	—	103	103
Net plan assets subject to leveling	$ 37	$ 375	$ 539	$ 951
Pending trade/purchases/sales				1
Accruals (3)				2
Investments measured at net asset value				766
Net plan assets				$ 1,720

In millions	Fair Value Measurements at December 31, 2022 Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Equities				
U.S.	$ 13	$ —	$ —	$ 13
Non-U.S.	9	—	—	9
Fixed income				
Government debt	—	222	—	222
Corporate debt				
U.S.	—	24	—	24
Non-U.S.	—	80	—	80
Net cash equivalents (1)	27	11	—	38
Insurance annuity	—	—	428	428
Private markets and real assets (2)	—	—	390	390
Net plan assets subject to leveling	$ 49	$ 337	$ 818	$ 1,204
Pending trade/purchases/sales				141
Accruals (3)				2
Investments measured at net asset value				323
Net plan assets				$ 1,670

(1) Cash equivalents include commercial paper, short-term government/agency, mortgage and credit instruments.

(2) The instruments in private markets and real assets, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by audited financial statements of the funds. Private markets include equity, venture capital and private credit instruments and funds. Real assets include real estate and infrastructure.

(3) Accruals include interest or dividends that were not settled at December 31.

Certain of our assets are valued based on their respective NAV (or its equivalent), as an alternative to estimated fair value due to the absence of readily available market prices. The fair value of each such investment category was as follows:

- U.S. and Non-U.S. Corporate Debt ($71 million and $77 million at December 31, 2023 and 2022, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

- Government Debt ($572 million and $64 million at December 31, 2023 and 2022, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

- Asset/Mortgage Backed Securities ($117 million and $128 million at December 31, 2023 and 2022, respectively) - This asset type represents investments in fixed- and floating-rate loans. These funds are valued using NAVs and allow quarterly or more frequent redemptions.

- Re-insurance ($6 million and $54 million at December 31, 2023 and 2022, respectively) - This commingled fund has a NAV that is determined on a monthly basis and the investment may be sold at that value.

The reconciliation of Level 3 assets was as follows:

In millions	Fair Value Measurements Using Significant Unobservable Inputs (Level 3) Insurance Annuity	Real Assets	Private Markets	Total
Balance at December 31, 2021	$ 514	$ 33	$ 356	$ 903
Actual return on plan assets				
Unrealized (losses) gains on assets still held at the reporting date	(178)	(2)	39	(141)
Purchases, sales and settlements, net	—	(23)	(13)	(36)
Assumption of Meritor's plan assets	92	—	—	92
Balance at December 31, 2022	428	8	382	818
Actual return on plan assets				
Unrealized (losses) gains on assets still held at the reporting date	**8**	**—**	**(35)**	**(27)**
Purchases, sales and settlements, net	**—**	**(1)**	**(251)**	**(252)**
Balance at December 31, 2023	**$ 436**	**$ 7**	**$ 96**	**$ 539**

Level 3 Assets

The investments in an insurance annuity contract, venture capital, private equity and real estate, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by quarterly financial statements of the funds. These financial statements are audited at least annually. In conjunction with our investment consultant and actuary, we monitor the fair value of the insurance contract as periodically reported by our insurer and their counterparty risk. The fair value of all real estate properties, held in the partnerships, are valued at least once per year by an independent professional real estate valuation firm. Fair value generally represents the fund's proportionate share of the net assets of the investment partnerships as reported by the general partners of the underlying partnerships. Some securities with no readily available market are initially valued at cost, utilizing independent professional valuation firms as well as market comparisons with subsequent adjustments to values which reflect either the basis of meaningful third-party transactions in the private market or the fair value deemed appropriate by the general partners of the underlying investment partnerships. In such instances, consideration is also given to the financial condition and operating results of the issuer, the amount that the investment partnerships can reasonably expect to realize upon the sale of the securities and any other factors deemed relevant. The estimated fair values are subject to uncertainty and therefore may differ from the values that would have been used had a ready market for such investments existed and such differences could be material.

Estimated Future Contributions and Benefit Payments

We plan to contribute approximately $67 million to our defined benefit pension plans in 2024. The table below presents expected future benefit payments under our pension plans:

	Qualified and Non-Qualified Pension Plans					
In millions	**2024**	**2025**	**2026**	**2027**	**2028**	**2029 - 2033**
Expected benefit payments	$ 360	$ 358	$ 361	$ 364	$ 370	$ 1,872

Other Pension Plans

We also sponsor defined contribution plans for certain hourly and salaried employees. Our contributions to these plans were $130 million, $110 million and $92 million for the years ended December 31, 2023, 2022 and 2021.

Other Postretirement Benefits

Our OPEB plans provide various health care and life insurance benefits to eligible employees, who retire and satisfy certain age and service requirements, and their dependents. The plans are contributory and contain cost-sharing features such as caps, deductibles, coinsurance and spousal contributions. Employer contributions are limited by formulas in each plan. Retiree contributions for health care benefits are adjusted annually, and we reserve the right to change benefits covered under these plans. There were no plan assets for OPEB plans as our policy is to fund benefits and expenses for these plans as claims and premiums are incurred.

Obligations and Funded Status

Benefit obligation balances presented below reflect the accumulated postretirement benefit obligations for our OPEB plans. The changes in the benefit obligations, the funded status of the plans and the amounts recognized in our Consolidated Balance Sheets for our significant OPEB plans were as follows:

	December 31,	
In millions	**2023**	**2022**
Change in benefit obligation		
Benefit obligation at the beginning of the year	**$ 162**	$ 192
Interest cost	**9**	5
Plan participants' contributions	**18**	4
Actuarial gain	**(2)**	(25)
Benefits paid directly by employer	**(37)**	(36)
Assumption of Meritor's benefit obligation	**—**	22
Benefit obligation at end of year	**$ 150**	$ 162
Funded status at end of year	**$ (150)**	$ (162)
Amounts recognized in consolidated balance sheets		
Accrued compensation, benefits and retirement costs	**$ (19)**	$ (21)
Other liabilities	**(131)**	(141)
Net amount recognized	**$ (150)**	$ (162)
Amounts recognized in accumulated other comprehensive loss		
Net actuarial gain	**$ (44)**	$ (44)
Prior service credit	**(3)**	(3)
Net amount recognized	**$ (47)**	$ (47)

In addition to the OPEB plans in the above table, we also maintain less significant OPEB plans in five other countries outside the U.S. that comprise approximately 16 percent and 14 percent of our OPEB obligations at December 31, 2023 and 2022, respectively. These plans are reflected in other liabilities in our Consolidated Balance Sheets.

Components of Net Periodic OPEB Cost

The following table presents the net periodic OPEB cost under our plans:

In millions	Years ended December 31, 2023	2022	2021
Interest cost	**$ 9**	$ 5	$ 5
Recognized net actuarial gain	**(2)**	—	—
Net periodic OPEB cost	**$ 7**	$ 5	$ 5

Other changes in benefit obligations recognized in other comprehensive loss (income) for the years ended December 31 were as follows:

In millions	Years ended December 31, 2023	2022	2021
Recognized net actuarial gain	**$ 2**	$ —	$ —
Incurred actuarial gain	**(2)**	(25)	(8)
Total recognized in other comprehensive loss (income)	**$ —**	$ (25)	$ (8)
Total recognized in net periodic OPEB cost and other comprehensive loss (income)	**$ 7**	$ (20)	$ (3)

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Assumptions

The table below presents assumptions used in determining the OPEB obligation for each year and reflects weighted-average percentages for our other OPEB plans as follows:

	2023	2022
Discount rate	**5.19 %**	5.59 %

The table below presents assumptions used in determining the net periodic OPEB cost and reflects weighted-average percentages for the various plans as follows:

	2023	2022	2021
Discount rate	**5.59 %**	2.93 %	2.30 %

Our consolidated OPEB obligation is determined by application of the terms of health care and life insurance plans, together with relevant actuarial assumptions and health care cost trend rates. For measurement purposes, a 6.75 percent annual rate of increase in the per capita cost of covered health care benefits was assumed in 2023. The rate is assumed to decrease on a linear basis to 5.0 percent through 2032 and remain at that level thereafter.

Estimated Benefit Payments

The table below presents expected benefit payments under our OPEB plans:

In millions	2024	2025	2026	2027	2028	2029 - 2033
Expected benefit payments	$ 20	$ 18	$ 16	$ 16	$ 15	$ 58

NOTE 12. SUPPLEMENTAL BALANCE SHEET DATA

Other assets included the following:

In millions	December 31, 2023	December 31, 2022
Deferred income taxes	**$ 1,082**	$ 625
Operating lease assets	**501**	492
Corporate owned life insurance	**417**	390
Other	**543**	633
Other assets	**$ 2,543**	$ 2,140

Other accrued expenses included the following:

In millions	December 31, 2023	December 31, 2022
Agreement in Principle [(1)]	**$ 1,938**	$ —
Marketing accruals	**399**	316
Other taxes payable	**296**	224
Income taxes payable	**242**	173
Current portion of operating lease liabilities	**138**	132
Other	**741**	620
Other accrued expenses	**$ 3,754**	$ 1,465

[(1)] See NOTE 2, "AGREEMENT IN PRINCIPLE," for additional information.

Other liabilities included the following:

	December 31,	
In millions	**2023**	**2022**
Accrued product warranty	**$ 777**	$ 744
Pensions	**530**	445
Deferred income taxes	**530**	649
Operating lease liabilities	**374**	368
Accrued compensation	**213**	184
Other postretirement benefits	**131**	141
Mark-to-market valuation on interest rate derivatives	**117**	151
Long-term income taxes	**111**	192
Other long-term liabilities	**647**	437
Other liabilities	**$ 3,430**	$ 3,311

NOTE 13. DEBT

Loans Payable

Loans payable at December 31, 2023 and 2022 were $280 million and $210 million, respectively, and consisted primarily of notes payable to financial institutions. The weighted-average interest rate for notes payable, bank overdrafts and current maturities of long-term debt at December 31 was as follows:

	2023	**2022**
Weighted-average interest rate	**3.31 %**	4.02 %

Commercial Paper

Our committed credit facilities provide access up to $4.0 billion of unsecured, short-term promissory notes (commercial paper) pursuant to the Board of Directors (the Board) authorized commercial paper programs. These programs facilitate the private placement of unsecured short-term debt through third-party brokers. We intend to use the net proceeds from the commercial paper borrowings for acquisitions and general corporate purposes. We had $1.496 billion and $2.574 billion in outstanding borrowings under our commercial paper programs at December 31, 2023 and 2022, respectively. The weighted-average interest rate for commercial paper at December 31 was as follows:

	2023	2022
Weighted-average interest rate	**5.43 %**	4.27 %

Revolving Credit Facilities

On June 5, 2023, we entered into an amended and restated 364-day credit agreement that allows us to borrow up to $2.0 billion of unsecured funds at any time prior to June 3, 2024. This credit agreement amended and restated the prior $1.5 billion 364-day credit facility that was scheduled to mature on August 16, 2023. In connection with the 364-day credit agreement, effective June 5, 2023, we terminated our $500 million incremental 364-day credit agreement dated August 17, 2022.

On August 18, 2021, we entered into an amended and restated 5-year revolving credit agreement, which allows us to borrow up to $2 billion of unsecured funds at any time prior to August 18, 2026. In connection with the new credit agreements, on August 17, 2022, we entered into an amendment to our $2.0 billion five-year facility to replace LIBOR with Secured Overnight Financing Rate (SOFR) as an interest rate benchmark and to make other conforming changes to interest rate determinations. Amounts payable under our revolving credit facility rank pro rata with all of our unsecured, unsubordinated indebtedness. Up to $300 million under this credit facility is available for swingline loans. Based on our current long-term debt ratings, the applicable margin on SOFR rate loans was 0.85 percent per annum. Advances under the facility may be prepaid without premium or penalty, subject to customary breakage costs.

Our committed credit facilities provide access up to $4.0 billion, including our $2.0 billion 364-day facility that expires June 3, 2024, and our $2.0 billion five-year facility that expires on August 18, 2026. We intend to maintain credit facilities at the current or higher aggregate amounts by renewing or replacing these facilities at or before expiration. These revolving credit facilities are maintained primarily to provide backup liquidity for our commercial paper borrowings and general corporate purposes. Our credit agreements include various covenants, including, among others, maintaining a net debt to total capital ratio of no more than 0.65 to 1.0. At December 31, 2023, we were in compliance with the financial debt covenants. There were no outstanding borrowings under these facilities at December 31, 2023 and December 31, 2022.

The total combined borrowing capacity under the revolving credit facilities and commercial programs should not exceed $4.0 billion. At December 31, 2023, our $1.5 billion of commercial paper outstanding effectively reduced the $4.0 billion available capacity under our revolving credit facilities to $2.5 billion.

At December 31, 2023, we also had an additional $393 million available for borrowings under our international and other domestic credit facilities.

At December 31, 2023, Atmus had no outstanding borrowings under its $400 million revolving credit facility. See "Atmus Credit Agreement" section below for additional details.

Long-term Debt

A summary of long-term debt was as follows:

In millions	Interest Rate	December 31, 2023	December 31, 2022
Long-term debt			
Senior notes, due 2023	3.65%	**$ —**	$ 500
Hydrogenics promissory notes, due 2024 and 2025 [(1)]	—%	**160**	—
Term loan, due 2025 [(2)(3)]	Variable	**1,150**	1,550
Senior notes, due 2025 [(4)]	0.75%	**500**	500
Atmus term loan, due 2027 [(5)]	Variable	**600**	—
Debentures, due 2027	6.75%	**58**	58
Debentures, due 2028	7.125%	**250**	250
Senior notes, due 2030 [(4)]	1.50%	**850**	850
Senior notes, due 2043	4.875%	**500**	500
Senior notes, due 2050	2.60%	**650**	650
Debentures, due 2098 [(6)]	5.65%	**165**	165
Other debt		**94**	121
Unamortized discount and deferred issuance costs		**(72)**	(64)
Fair value adjustments due to hedge on indebtedness		**(96)**	(122)
Finance leases		**111**	113
Total long-term debt		**4,920**	5,071
Less: Current maturities of long-term debt		**118**	573
Long-term debt		**$ 4,802**	$ 4,498

[(1)] See NOTE 24, "ACQUISITIONS," for additional information.

[(2)] During 2023, we paid down $400 million of the term loan.

[(3)] In September 2023, we entered into a series of interest rate swaps in order to trade a portion of the floating rate into fixed rate. See "Interest Rate Risk" in NOTE 21, "DERIVATIVES," for additional information.

[(4)] In 2021, we entered into a series of interest rate swaps to effectively convert from a fixed rate to floating rate. See "Interest Rate Risk" in NOTE 21, "DERIVATIVES," for additional information.

[(5)] See "Atmus Credit Agreement" section below for additional information.

[(6)] The effective interest rate is 7.48 percent.

Principal payments required on long-term debt during the next five years are as follows:

In millions	2024	2025	2026	2027	2028
Principal payments	$ 118	$1,797	$ 67	$ 614	$ 266

On July 13, 2022, we entered into a loan agreement under which we may obtain delayed-draw loans in an amount up to $2.0 billion in the aggregate prior to October 13, 2022. We drew down the entire $2.0 billion balance on August 2, 2022, to help fund the acquisition of Meritor. The interest rate is based on SOFR for the one-month interest period plus the relevant spread. The loan will mature on August 1, 2025. As of December 31, 2023 we repaid $850 million of this term loan. The agreement contains customary events of default and financial and other covenants, including maintaining a net debt to capital ratio of no more than 0.65 to 1.0.

The $250 million 7.125 percent debentures and $165 million 5.65 percent debentures are unsecured and are not subject to any sinking fund requirements. We can redeem these debentures at any time prior to maturity at the greater of par plus accrued interest or an amount designed to ensure that the debenture holders are not penalized by the early redemption.

Our debt agreements contain several restrictive covenants. The most restrictive of these covenants applies to our revolving credit facility which will upon default, among other things, limit our ability to incur additional debt or issue preferred stock, enter into sale-leaseback transactions, sell or create liens on our assets, make investments and merge or consolidate with any other entity. At December 31, 2023, we were in compliance with all of the financial debt covenants under our borrowing agreements.

Shelf Registration

As a well-known seasoned issuer, we filed an automatic shelf registration for an undetermined amount of debt and equity securities with the Securities and Exchange Commission (SEC) on February 8, 2022. Under this shelf registration we may offer, from time to time, debt securities, common stock, preferred and preference stock, depositary shares, warrants, stock purchase contracts and stock purchase units. Our current shelf is scheduled to expire in February 2025.

Interest Expense

For the years ended December 31, 2023, 2022 and 2021, total interest incurred was $383 million, $204 million and $113 million, respectively, and interest capitalized was $8 million, $5 million and $2 million, respectively.

Fair Value of Debt

Based on borrowing rates currently available to us for bank loans with similar terms and average maturities, considering our risk premium, the fair values and carrying values of total debt, including current maturities, were as follows:

	December 31,	
In millions	**2023**	**2022**
Fair values of total debt [(1)]	**$ 6,375**	$ 7,400
Carrying value of total debt	**6,696**	7,855

[(1)] The fair value of debt is derived from Level 2 input measures.

Atmus Credit Agreement

On February 15, 2023, certain of our subsidiaries entered into an amendment to the $1.0 billion credit agreement (Credit Agreement), consisting of a $400 million revolving credit facility and a $600 million term loan facility, in anticipation of the separation of Atmus, extending the Credit Agreement termination date from March 30, 2023, to June 30, 2023. On May 26, 2023, Atmus drew down the entire $600 million term loan facility and borrowed $50 million under the revolving credit facility. Borrowings under the Credit Agreement mature in September 2027 (with quarterly payments on the term loan beginning in September 2024) and bear interest at varying rates, depending on the type of loan and, in some cases, the rates of designated benchmarks and the applicable borrower’s election. Generally, U.S. dollar-denominated loans bear interest at adjusted-term (SOFR) (which includes a 0.10 percent credit spread adjustment to term SOFR) for the applicable interest period plus a rate ranging from 1.125 percent to 1.75 percent. The Credit Agreement contains customary events of default and financial and other covenants, including maintaining a net leverage ratio of 4.0 to 1.0 and a minimum interest coverage ratio of 3.0 to 1.0. At December 31, 2023, there were no outstanding borrowings under the revolving credit facility and $600 million outstanding under the term loan facility. See NOTE 23, "FORMATION OF ATMUS AND IPO," for additional information.

NOTE 14. PRODUCT WARRANTY LIABILITY

A tabular reconciliation of the product warranty liability, including the deferred revenue related to our extended warranty coverage and accrued product campaigns, was as follows:

	December 31,		
In millions	**2023**	**2022**	**2021**
Balance at beginning of year	**$ 2,477**	$ 2,425	$ 2,307
Provision for base warranties issued	**602**	515	503
Deferred revenue on extended warranty contracts sold	**350**	287	288
Provision for product campaigns issued	**28**	141	346
Payments made during period	**(705)**	(596)	(530)
Amortization of deferred revenue on extended warranty contracts	**(300)**	(298)	(260)
Changes in estimates for pre-existing product warranties and campaigns	**37**	(128)	(228)
Acquisitions [1]	**—**	147	—
Foreign currency translation adjustments and other	**8**	(16)	(1)
Balance at end of year	**$ 2,497**	$ 2,477	$ 2,425

[1] See NOTE 24, "ACQUISITIONS," for additional information.

We recognized supplier recoveries of $36 million, $39 million and $170 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Warranty related deferred revenues and warranty liabilities on our Consolidated Balance Sheets were as follows:

In millions	December 31, 2023	2022	Balance Sheet Location
Deferred revenue related to extended coverage programs			
Current portion	**$ 279**	$ 290	Current portion of deferred revenue
Long-term portion	**774**	717	Deferred revenue
Total	**$ 1,053**	$ 1,007	
Product warranty			
Current portion	**$ 667**	$ 726	Current portion of accrued product warranty
Long-term portion	**777**	744	Other liabilities
Total	**$ 1,444**	$ 1,470	
Total warranty accrual	**$ 2,497**	$ 2,477	

NOTE 15. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

We are subject to numerous lawsuits and claims arising out of the ordinary course of our business, including actions related to product liability; personal injury; the use and performance of our products; warranty matters; product recalls; patent, trademark or other intellectual property infringement; contractual liability; the conduct of our business; tax reporting in foreign jurisdictions; distributor termination; workplace safety; environmental matters; and asbestos claims. We also have been identified as a potentially responsible party at multiple waste disposal sites under U.S. federal and related state environmental statutes and regulations and may have joint and several liability for any investigation and remediation costs incurred with respect to such sites. We have denied liability with respect to many of these lawsuits, claims and proceedings and are vigorously defending such lawsuits, claims and proceedings. We carry various forms of commercial, property and casualty, product liability and other forms of insurance; however, such insurance may not be applicable or adequate to cover the costs associated with a judgment against us with respect to these lawsuits, claims and proceedings. We do not believe that these lawsuits are material individually or in the aggregate. While we believe we have also established adequate accruals for our expected future liability with respect to pending lawsuits, claims and proceedings, where the nature and extent of any such liability can be reasonably estimated based upon then presently available information, there can be no assurance that the final resolution of any existing or future lawsuits, claims or proceedings will not have a material adverse effect on our business, results of operations, financial condition or cash flows.

We conduct significant business operations in Brazil that are subject to the Brazilian federal, state and local labor, social security, tax and customs laws. While we believe we comply with such laws, they are complex, subject to varying interpretations and we are often engaged in litigation regarding the application of these laws to particular circumstances.

On June 28, 2022, KAMAZ Publicly Traded Company (KAMAZ) was designated to the List of Specially Designated Nationals and Blocked Persons by the U.S. Department of the Treasury’s Office of Foreign Assets Control (OFAC). We filed blocked property reports for relevant assets and sought relevant authorizations to extricate ourselves from our relationship with KAMAZ and its subsidiaries, including our unconsolidated joint venture with KAMAZ, in compliance with U.S. and other applicable laws. We received OFAC authorization on May 26, 2023, and from the U.K. Office of Financial Sanctions Implementation on September 15, 2023, which allowed us to finalize the exit of our unconsolidated joint venture with KAMAZ.

On April 29, 2019, we announced that we were conducting a formal internal review of our emissions certification process and compliance with emission standards for our pick-up truck applications, following conversations with the EPA and CARB regarding certification of our engines in model year 2019 RAM 2500 and 3500 trucks. This review was conducted with external advisors as we continue to strive to ensure the certification and compliance processes for all of our pick-up truck applications are consistent with our internal policies, engineering standards and applicable laws.

In December 2023, we announced that we reached the Agreement in Principle with EPA, CARB, the Environmental and Natural Resources Division of the DOJ and the CA AG to resolve certain regulatory civil claims regarding our emissions certification and compliance process for certain engines primarily used in pick-up truck applications in the U.S. As part of the Agreement in Principle, among other things, we agreed to pay civil penalties, complete recall requirements, undertake mitigation projects, provide extended warranties, undertake certain testing, take certain corporate compliance measures and make other payments. Failure to comply with the Agreement in Principle will subject us to further stipulated penalties. We recorded a charge of $2.036 billion in the fourth quarter of 2023 to resolve the matters addressed by the Agreement in Principle involving approximately one million of our pick-up truck applications in the U.S. This charge was in addition to the previously announced charges of $59 million for the recalls of model years 2013 through 2018 RAM 2500 and 3500 trucks and model years 2016 through 2019 Titan trucks. The Agreement in Principle remains subject to final regulatory and judicial approvals, and we cannot be certain that the Agreement in Principle will be approved, in its current form, or at all. See NOTE 2, "AGREEMENT IN PRINCIPLE," for additional information.

We have also been in communication with other non-U.S. regulators regarding matters related to the emission systems in our engines and may also become subject to additional regulatory review in connection with these matters.

In connection with our announcement of our entry into the Agreement in Principle, we have become subject to shareholder, consumer and third-party litigation regarding the matters covered by the Agreement in Principle and we may become subject to additional litigation in connection with these matters.

The consequences resulting from the resolution of the foregoing matters are uncertain and the related expenses and reputational damage could have a material adverse impact on our results of operations, financial condition and cash flows.

Guarantees and Commitments

Periodically, we enter into guarantee arrangements, including guarantees of non-U.S. distributor financings, residual value guarantees on equipment under operating leases and other miscellaneous guarantees of joint ventures or third-party obligations. At December 31, 2023, the maximum potential loss related to these guarantees was $41 million.

We have arrangements with certain suppliers that require us to purchase minimum volumes or be subject to monetary penalties. At December 31, 2023, if we were to stop purchasing from each of these suppliers, the aggregate amount of the penalty would be approximately $393 million. These arrangements enable us to secure supplies of critical components and IT services. We do not currently anticipate paying any penalties under these contracts.

We enter into physical forward contracts with suppliers of platinum, palladium and iridium to purchase certain volumes of the commodities at contractually stated prices for various periods, which generally fall within two years. At December 31, 2023, the total commitments under these contracts were $104 million. These arrangements enable us to guarantee the prices of these commodities, which otherwise are subject to market volatility.

We have guarantees with certain customers that require us to satisfactorily honor contractual or regulatory obligations, or compensate for monetary losses related to nonperformance. These performance bonds and other performance-related guarantees were $178 million at December 31, 2023.

Indemnifications

Periodically, we enter into various contractual arrangements where we agree to indemnify a third-party against certain types of losses. Common types of indemnities include:

- product liability and license, patent or trademark indemnifications;
- asset sale agreements where we agree to indemnify the purchaser against future environmental exposures related to the asset sold; and
- any contractual agreement where we agree to indemnify the counterparty for losses suffered as a result of a misrepresentation in the contract.

We regularly evaluate the probability of having to incur costs associated with these indemnities and accrue for expected losses that are probable. Because the indemnifications are not related to specified known liabilities and due to their uncertain nature, we are unable to estimate the maximum amount of the potential loss associated with these indemnifications.

NOTE 16. CUMMINS INC. SHAREHOLDERS' EQUITY

Preferred and Preference Stock

We are authorized to issue one million shares of zero par value preferred and one million shares of preference stock with preferred shares being senior to preference shares. We can determine the number of shares of each series, and the rights, preferences and limitations of each series. At December 31, 2023 and 2022, there was no preferred or preference stock outstanding.

Common Stock

Changes in shares of common stock, treasury stock and common stock held in trust for employee benefit plans were as follows:

In millions	Common Stock	Treasury Stock
Balance at December 31, 2020	222.4	74.8
Shares acquired	—	5.7
Shares issued	0.1	(0.5)
Balance at December 31, 2021	222.5	80.0
Shares acquired	—	1.9
Shares issued	—	(0.7)
Balance at December 31, 2022	222.5	81.2
Shares issued	**—**	**(0.5)**
Balance at December 31, 2023	**222.5**	**80.7**

Treasury Stock

Shares of common stock repurchased by us are recorded at cost as treasury stock and result in a reduction of shareholders' equity in our Consolidated Balance Sheets. Treasury shares may be reissued as part of our stock-based compensation programs. When shares are reissued, we use the weighted-average cost method for determining cost. The gains between the cost of the shares and the issuance price are added to additional paid-in-capital. The losses are deducted from additional paid-in capital to the extent of the gains. Thereafter, the losses are deducted from retained earnings. Treasury stock activity for the three-year period ended December 31, 2023, consisting of shares issued and repurchased is presented in our Consolidated Statements of Changes in Redeemable Noncontrolling Interests and Equity.

In December 2021, the Board authorized the acquisition of up to $2.0 billion of additional common stock upon completion of the $2.0 billion repurchase plan authorized in 2019. The dollar value remaining available for future purchases under the 2019 program at December 31, 2023, was $218 million.

We did not make any repurchases of common stock during 2023. We repurchased $374 million and $1,402 million of our common stock in the years ended December 31, 2022 and 2021, respectively.

Dividends

Total dividends paid to common shareholders in 2023, 2022 and 2021 were $921 million, $855 million and $809 million, respectively. Declaration and payment of dividends in the future depends upon our income and liquidity position, among other factors, and is subject to declaration by the Board, who meets quarterly to consider our dividend payment. We expect to fund dividend payments with cash from operations.

In July 2023, the Board authorized an increase to our quarterly dividend of 7.0 percent from $1.57 per share to $1.68 per share. In July 2022, the Board authorized an 8.3 percent increase to our quarterly cash dividend on our common stock from $1.45 per share to $1.57 per share. In July 2021, the Board approved a 7.4 percent increase to our quarterly dividend on our common stock from $1.35 per share to $1.45 per share. Cash dividends per share paid to common shareholders for the last three years were as follows:

	Quarterly Dividends		
	2023	**2022**	**2021**
First quarter	**$ 1.57**	$ 1.45	$ 1.35
Second quarter	**1.57**	1.45	1.35
Third quarter	**1.68**	1.57	1.45
Fourth quarter	**1.68**	1.57	1.45
Total	**$ 6.50**	$ 6.04	$ 5.60

NOTE 17. ACCUMULATED OTHER COMPREHENSIVE LOSS

Following are the changes in accumulated other comprehensive (loss) income by component:

In millions	Change in pensions and other postretirement defined benefit plans	Foreign currency translation adjustment	Unrealized gain (loss) on derivatives	Total attributable to Cummins Inc.	Noncontrolling interests	Total
Balance at December 31, 2020	$ (735)	$ (1,204)	$ (43)	$ (1,982)		
Other comprehensive income (loss) before reclassifications						
Before-tax amount	425	(5)	38	458	$ (5)	$ 453
Tax (expense) benefit	(103)	1	(12)	(114)	—	(114)
After-tax amount	322	(4)	26	344	(5)	339
Amounts reclassified from accumulated other comprehensive income [(1)]	67	—	—	67	—	67
Net current period other comprehensive income (loss)	389	(4)	26	411	$ (5)	$ 406
Balance at December 31, 2021	$ (346)	$ (1,208)	$ (17)	$ (1,571)		
Other comprehensive income (loss) before reclassifications						
Before-tax amount	(123)	(350)	136	(337)	$ (40)	$ (377)
Tax benefit (expense)	19	6	(32)	(7)	—	(7)
After-tax amount	(104)	(344)	104	(344)	(40)	(384)
Amounts reclassified from accumulated other comprehensive income [(1)]	23	—	2	25	—	25

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NOTE 18. NONCONTROLLING INTERESTS

Noncontrolling interests in the equity of consolidated subsidiaries were as follows:

	December 31,	
In millions	2023	2022
Eaton Cummins Automated Transmission Technologies	**$ 534**	$ 525
Cummins India Ltd.	**388**	342
Other	**132**	125
Noncontrolling interests	**$ 1,054**	$ 992

NOTE 19. STOCK INCENTIVE AND STOCK OPTION PLANS

Our stock incentive plan (the Plan) allows for granting of up to 8.5 million total shares of equity awards to executives, employees and non-employee directors. Awards available for grant under the Plan include, but are not limited to, stock options, stock appreciation rights, performance shares and other stock awards. Shares issued under the Plan may be newly issued shares or reissued treasury shares.

Stock options are generally granted with a strike price equal to the fair market value of the stock on the date of grant and a life of 10 years. Stock options granted have a three-year vesting period. The strike price may be higher than the fair value of the stock on the date of the grant, but cannot be lower. Compensation expense is recorded on a straight-line basis over the vesting period beginning on the grant date. The compensation expense is based on the fair value of each option grant using the Black-Scholes option pricing model. Options granted to employees eligible for retirement under our retirement plan are fully expensed at the grant date.

Stock options are also awarded through the Key Employee Stock Investment Plan (KESIP) which allows certain employees, other than officers, to purchase shares of common stock on an installment basis up to an established credit limit. For every block of 100 KESIP shares purchased by the employee 50 stock options are granted. The options granted through the KESIP program are considered awards under the Plan and are vested immediately. Compensation expense for stock options granted through the KESIP program is recorded based on the fair value of each option grant using the Black-Scholes option pricing model.

Performance shares are granted as target awards and are earned based on certain measures of our operating performance. A payout factor has been established ranging from 0 to 200 percent of the target award based on our actual performance during the three-year performance period. The fair value of the award is equal to the average market price, adjusted for the present value of dividends over the vesting period, of our stock on the grant date. Compensation expense is recorded ratably over the period beginning on the grant date until the shares become unrestricted and is based on the amount of the award that is expected to be earned under the plan formula, adjusted each reporting period based on current information.

Restricted stock and restricted stock units are awarded from time to time at no cost to certain employees. Restrictions limit the sale or transfer of the shares during a defined period. Most awards are not entitled to cash dividends and voting rights until vesting. Generally, the shares vest and become free from restrictions ratably over a three-year service period, provided the participant remains an employee. The fair value of the awards typically equals the average market price of our stock on the grant date adjusted for the present value of dividends over the vesting period. Compensation expense is determined at the grant date and is recognized over the restriction period on a straight-line basis.

Employee compensation expense (net of estimated forfeitures) related to our share-based plans for the years ended December 31, 2023, 2022 and 2021, was approximately $79 million, $33 million and $36 million, respectively. The excess tax benefit associated with our employee share-based plans for the years ended December 31, 2023, 2022 and 2021, was $7 million, $8 million and $9 million, respectively. The total unrecognized compensation expense (net of estimated forfeitures) related to nonvested awards for our employee share-based plans was approximately $95 million at December 31, 2023 and is expected to be recognized over a weighted-average period of approximately two years.

The table below summarizes the employee share-based activity in the Plan:

	Options		Weighted-average Exercise Price	Weighted-average Remaining Contractual Life (in years)		Aggregate Intrinsic Value (in millions)
Balance at December 31, 2020	3,175,530	$	142.63			
Granted	16,550		232.44			
Exercised	(400,154)		138.93			
Forfeited	(48,828)		153.72			
Balance at December 31, 2021	2,743,098		143.51			
Granted	18,900		207.79			
Exercised	(586,990)		137.83			
Forfeited	(29,045)		148.08			
Balance at December 31, 2022	2,145,963		145.57			
Granted	**17,500**		**225.39**			
Exercised	**(345,250)**		**142.69**			
Forfeited	**(3,793)**		**144.16**			
Balance at December 31, 2023	**1,814,420**	**$**	**146.89**	**4.2**	**$**	**169**
Exercisable, December 31, 2021	1,629,588	$	136.74	4.4	$	133
Exercisable, December 31, 2022	1,655,298	$	146.37	4.6	$	159
Exercisable, December 31, 2023	**1,814,420**	**$**	**146.89**	**4.2**	**$**	**169**

The weighted-average grant date fair value of options granted during the years ended December 31, 2023, 2022 and 2021, was $57.01, $45.74 and $46.03, respectively. The total intrinsic value of options exercised during the years ended December 31, 2023, 2022 and 2021, was approximately $35 million, $53 million and $41 million, respectively.

The share-based activity and weighted-average grant date fair value of performance and restricted shares was as follows:

Nonvested	Performance Shares		Restricted Shares	
	Shares	Weighted-average Fair Value	Shares	Weighted-average Fair Value
Balance at December 31, 2020	376,954	$ 140.85	3,704	$ 165.04
Granted	217,684	234.22	26,224	265.41
Vested	(131,744)	146.55	—	—
Forfeited	(22,745)	171.91	—	—
Balance at December 31, 2021	440,149	183.72	29,928	252.99
Granted	230,535	184.92	215,260	209.08
Vested	(122,188)	148.99	(5,513)	249.79
Forfeited	(63,197)	182.68	(3,262)	211.37
Balance at December 31, 2022	485,299	193.17	236,413	213.66
Granted	**170,205**	**222.86**	**176,128**	**223.92**
Vested	**(99,425)**	**126.38**	**(74,270)**	**215.38**
Forfeited	**(68,566)**	**199.69**	**(27,931)**	**217.01**
Balance at December 31, 2023	**487,513**	**$ 216.24**	**310,340**	**$ 218.77**

The total vesting date fair value of performance shares vested during the years ended December 31, 2023, 2022 and 2021, was $25 million, $24 million and $35 million, respectively. The total fair value of restricted shares vested was $17 million, $1 million and $0 for the years ended December 31, 2023, 2022 and 2021, respectively.

The fair value of each option grant was estimated on the grant date using the Black-Scholes option pricing model with the following assumptions:

	2023	**2022**	**2021**
Expected life (years)	**6**	6	6
Risk-free interest rate	**3.91 %**	2.32 %	1.15 %
Expected volatility	**28.73 %**	28.40 %	28.68 %
Dividend yield	**2.81 %**	2.85 %	2.95 %

Expected life—The expected life of employee stock options represents the weighted-average period the stock options are expected to remain outstanding based upon our historical data.

Risk-free interest rate—The risk-free interest rate assumption is based upon the observed U.S. treasury security rate appropriate for the expected life of our employee stock options.

Expected volatility—The expected volatility assumption is based upon the weighted-average historical daily price changes of our common stock over the most recent period equal to the expected option life of the grant, adjusted for activity which is not expected to occur in the future.

Dividend yield—The dividend yield assumption is based on our history and expectation of dividend payouts.

NOTE 20. EARNINGS PER COMMON SHARE ATTRIBUTABLE TO CUMMINS INC.

We calculate basic earnings per share (EPS) of common stock by dividing net income attributable to Cummins Inc. by the weighted-average number of common shares outstanding for the period. The calculation of diluted EPS assumes the issuance of common stock for all potentially dilutive share equivalents outstanding, which is calculated using the treasury-stock method for share-based awards. Following are the computations for basic and diluted earnings per share:

In millions, except per share amounts	Years ended December 31, 2023	2022	2021
Net income attributable to Cummins Inc.	**$ 735**	$ 2,151	$ 2,131
Weighted-average common shares outstanding			
Basic	**141.7**	141.5	144.6
Dilutive effect of stock compensation awards	**1.0**	0.8	1.3
Diluted	**142.7**	142.3	145.9
Earnings per common share attributable to Cummins Inc.			
Basic	**$ 5.19**	$ 15.20	$ 14.74
Diluted	**5.15**	15.12	14.61

The weighted-average diluted common shares outstanding exclude the anti-dilutive effect of certain stock options. The options excluded from diluted earnings per share were as follows:

	Years ended December 31, 2023	2022	2021
Options excluded	**10,587**	20,595	6,463

NOTE 21. DERIVATIVES

We are exposed to financial risk resulting from volatility in foreign exchange rates, interest rates and commodity prices. This risk is closely monitored and managed through the use of physical forward contracts (which are not considered derivatives) and financial derivative instruments including foreign currency forward contracts, commodity swap contracts and interest rate swaps and locks. Financial derivatives are used expressly for hedging purposes and under no circumstances are they used for speculative purposes. When material, we adjust the estimated fair value of our derivative contracts for counterparty or our credit risk. None of our derivative instruments are subject to collateral requirements. Substantially all of our derivative contracts are subject to master netting arrangements, which provide us with the option to settle certain contracts on a net basis when they settle on the same day with the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event.

Foreign Currency Exchange Rate Risk

We had foreign currency forward contracts with notional amounts of $4.5 billion at December 31, 2023, with the following currencies comprising 85 percent of outstanding foreign currency forward contracts: British pound, Chinese renminbi, Canadian dollar, Australian dollar and Swedish kronor. We had foreign currency forward contracts with notional amounts of $3.6 billion at December 31, 2022, with the following currencies comprising 88 percent of outstanding foreign currency forward contracts: Chinese renminbi, British pound, Canadian dollar, Australian dollar and Euro.

We are further exposed to foreign currency exchange risk as many of our subsidiaries are subject to fluctuations as the functional currencies of the underlying entities are not our U.S. dollar reporting currency. To help minimize movements for certain investments, in the third quarter of 2022 we began entering into foreign exchange forwards designated as net investment hedges for certain of our investments. Under the current terms of our foreign exchange forwards, we agreed with third parties to sell British pound in exchange for U.S. dollar currency at a specified rate at the maturity of the contract. The notional amount of these hedges at December 31, 2023, was $808 million.

The following table summarizes the net investment hedge activity in AOCL:

	Years ended December 31,			
In millions	**2023**		**2022**	
Type of Derivative	**Gain (Loss) Recognized in AOCL**	**Gain (Loss) Reclassified from AOCL into Earnings**	**Gain (Loss) Recognized in AOCL**	**Gain (Loss) Reclassified from AOCL into Earnings**
Foreign exchange forwards	**$ (30)**	**$ —**	$ (22)	$ —

Interest Rate Risk

In September 2023, we entered into a series of interest rate swaps with a total notional value of $500 million in order to trade a portion of the floating rate into a fixed rate on our term loan, due in 2025. The maturity date of the interest rate swaps is August 1, 2025. The weighted-average interest rate of the interest rate swaps is 5.72 percent. We designated the swaps as cash flow hedges. The gains and losses on these derivative instruments are initially recorded in other comprehensive income and reclassified into earnings as interest expense in the Consolidated Financial Statements as each interest payment is accrued.

The following table summarizes the interest rate swap activity in AOCL:

	Year ended December 31,	
In millions	**2023**	
Type of Swap	**Gain (Loss) Recognized in AOCL**	**Gain (Loss) Reclassified from AOCL into Interest Expense**
Interest rate swaps	**$ (4)**	**$ —**

In 2021, we entered into a series of interest rate swaps to effectively convert our $500 million senior notes, due in 2025, from a fixed rate of 0.75 percent to a floating rate equal to the three-month LIBOR plus a spread. We also entered into a series of interest rate swaps to effectively convert $765 million of our $850 million senior notes, due in 2030, from a fixed rate of 1.50 percent to a floating rate equal to the three-month LIBOR plus a spread. The fallback protocol in our derivative agreements allowed for a transition from LIBOR to SOFR in the third quarter of 2023. We designated the swaps as fair value hedges. The gain or loss on these derivative instruments, as well as the offsetting gain or loss on the hedged item attributable to the hedged risk, are recognized in current income as interest expense. The net swap settlements that accrue each period are also reported in the Consolidated Financial Statements as interest expense. In March 2023, we settled a portion of our 2021 interest rate swaps with a notional amount of $100 million. The $7 million loss on settlement will be amortized over the remaining term of the related debt.

The following table summarizes the gains and losses:

In millions	Years ended December 31,					
	2023		2022		2021	
Type of Swap	Gain (Loss) on Swaps	Gain (Loss) on Borrowings	Gain (Loss) on Swaps	Gain (Loss) on Borrowings	Gain (Loss) on Swaps	Gain (Loss) on Borrowings
Interest rate swaps [1]	**$ 31**	**$ (32)**	$ (148)	$ 145	$ (3)	$ 2

[1] The difference between the gain (loss) on swaps and borrowings represented hedge ineffectiveness.

In 2019, we entered into $350 million of interest rate lock agreements, and in 2020 we entered into an additional $150 million of lock agreements to reduce the variability of the cash flows of the interest payments on a total of $500 million of fixed rate debt originally forecast to be issued in 2023 to replace our senior notes at maturity. The terms of the rate locks mirror the time period of the expected fixed rate debt issuance and the expected timing of interest payments on that debt. The gains and losses on these derivative instruments are initially recorded in other comprehensive income and will be released to earnings in interest expense in future periods to reflect the difference in (1) the fixed rates economically locked in at the inception of the hedge and (2) the actual fixed rates established in the debt instrument at issuance. In 2022, we settled certain rate lock agreements with notional amounts totaling $150 million for $49 million in cash. In 2023, we settled all remaining rate lock agreements with notional amounts totaling $350 million for $101 million. The majority of the $150 million of gains on settlements will remain in other comprehensive income and will be amortized over the term of the debt anticipated to be issued in early 2024. The following table summarizes the interest rate lock activity in AOCL:

In millions	Year ended December 31,					
	2023		2022		2021	
Type of Swap	Gain (Loss) Recognized in AOCL	Gain (Loss) Reclassified from AOCL into Interest Expense	Gain (Loss) Recognized in AOCL	Gain (Loss) Reclassified from AOCL into Interest Expense	Gain (Loss) Recognized in AOCL	Gain (Loss) Reclassified from AOCL into Interest Expense
Interest rate locks	**$ 14**	**$ 2**	$ 112	$ —	$ 19	$ —

Cash Flow Hedging

The following table summarizes the effect on our Consolidated Statements of Net Income for derivative instruments classified as cash flow hedges. The table does not include amounts related to ineffectiveness as it was not material for the periods presented.

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
Gain (loss) reclassified from AOCL into income - Net sales [1]	**$ 17**	$ (4)	$ (4)
Gain reclassified from AOCL into income - Cost of sales [1][2]	**3**	1	6

[1] Includes foreign currency forward contracts.

[2] Includes commodity swap contracts.

Derivatives Not Designated as Hedging Instruments

The following table summarizes the effect on our Consolidated Statements of Net Income for derivative instruments not designated as hedging instruments:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
(Loss) gain recognized in income - Cost of sales [1]	**$ (3)**	$ 2	$ —
(Loss) gain recognized in income - Other income, net [1]	**(21)**	(5)	45

[1] Includes foreign currency forward contracts.

Fair Value Amount and Location of Derivative Instruments

The following table summarizes the location and fair value of derivative instruments on our Consolidated Balance Sheets:

	Derivatives Designated as Hedging Instruments		Derivatives Not Designated as Hedging Instruments	
	December 31,		December 31,	
In millions	**2023**	**2022**	**2023**	**2022**
Notional amount	**$ 2,997**	$ 3,051	**$ 3,610**	$ 2,900
Derivative assets				
Prepaid expenses and other current assets	**$ 14**	$ 18	**$ 16**	$ 27
Other assets	**—**	80	**—**	—
Total derivative assets [1]	**$ 14**	$ 98	**$ 16**	$ 27
Derivative liabilities				
Other accrued expenses	**$ 43**	$ 19	**$ 14**	$ 3
Other liabilities	**117**	151	**—**	—
Total derivative liabilities [1]	**$ 160**	$ 170	**$ 14**	$ 3

[1] Estimates of the fair value of all derivative assets and liabilities above are derived from Level 2 inputs, which are estimated using actively quoted prices for similar instruments from brokers and observable inputs where available, including market transactions and third-party pricing services, or net asset values provided to investors. We do not currently have any Level 3 input measures and there were no transfers into or out of Level 2 or 3 during 2023 or 2022.

We elected to present our derivative contracts on a gross basis in our Consolidated Balance Sheets. Had we chosen to present on a net basis, we would have derivatives in a net asset position of $4 million and $52 million and derivatives in a net liability position of $148 million and $100 million at December 31, 2023, and 2022, respectively.

NOTE 22. RUSSIAN OPERATIONS

On March 17, 2022, the Board indefinitely suspended our operations in Russia due to the ongoing conflict in Ukraine. At the time of suspension, our Russian operations included a wholly-owned distributor in Russia, an unconsolidated joint venture with KAMAZ (a Russian truck manufacturer) and direct sales into Russia from our other business segments. As a result of the indefinite suspension of operations, we evaluated the recoverability of assets in Russia and assessed other potential liabilities. The following summarizes the costs associated with the suspension of our Russian operations in our Consolidated Statements of Net Income:

In millions	Year ended December 31, 2022	Statement of Net Income Location
Inventory write-downs	$ 17	Cost of sales
Accounts receivable reserves	41	Other operating expense, net
Impairment and other joint venture costs	31	Equity, royalty and interest income from investees
Other	22	Other operating expense, net
Russian suspension costs, net of recoveries	$ 111	

For the year ended December 31, 2023, there were no material additional costs.

NOTE 23. FORMATION OF ATMUS AND IPO

On May 23, 2023, in connection with the Atmus IPO, Cummins issued approximately $350 million of commercial paper with certain lenders. On May 26, 2023, Atmus shares began trading on the New York Stock Exchange under the symbol "ATMU." The IPO was completed on May 30, 2023, whereby Cummins exchanged 19.5 percent (approximately 16 million shares) of its ownership in Atmus, at $19.50 per share, to retire $299 million of the commercial paper as proceeds from the offering through a non-cash transaction.

In connection with the completion of the IPO, through a series of asset and equity contributions, we transferred the filtration business to Atmus. In exchange, Atmus transferred consideration of $650 million to Cummins, which consisted primarily of the net proceeds from a term loan facility and revolver executed by Atmus during May 2023. The commercial paper issued and retired through the IPO proceeds, coupled with the $650 million received, was used for the retirement of our historical debt and payment of dividends. The difference between the commercial paper retired from the IPO, other IPO related fees and the net book value of our divested interest was $285 million and was recorded as an offset to additional paid-in capital. Of our consolidated cash and cash equivalents at December 31, 2023, $166 million is retained by Atmus for its working capital purposes. See NOTE 13, "DEBT," for additional information.

We will continue to consolidate the financial position and results of Atmus, so long as we retain control. The earnings attributable to the divested, noncontrolling interest for the year ended December 31, 2023, were $17 million. At December 31, 2023, the noncontrolling interest associated with Atmus is reflected in noncontrolling interests in our Consolidated Balance Sheets.

Subject to market conditions, we intend to make a tax-free split-off of Atmus, pursuant to which Cummins will offer its stockholders the option to exchange their shares of Cummins common stock for shares of Atmus common stock in an exchange offer.

NOTE 24. ACQUISITIONS

Acquisitions for the years ended December 31, 2023 and 2022, were as follows:

Entity Acquired (Dollars in millions)	Date of Acquisition	Additional Percent Interest Acquired	Payments to Former Owners	Acquisition Related Debt Retirements	Total Purchase Consideration	Type of Acquisition[1]	Goodwill Acquired	Intangi Recogni
2023								
Cummins France SA	**10/31/23**	**100 %**	**$ 25**	**$ 5**	**$ 30**	**COMB**	**$ 4**	**$**
Faurecia	**10/02/23**	**100 %**	**210**	**—**	**210** [3]	**COMB**	**90**	
Hydrogenics Corporation (Hydrogenics)	**06/29/23**	**19 %**	**287**	**48**	**335** [4]	**EQUITY**	**—**	
Teksid Hierro de Mexico, S.A. de C.V. (Teksid MX)	**04/03/23**	**100 %**	**143**	**—**	**143** [5]	**COMB**	**18**	
2022								
Siemens Commercial Vehicles Propulsion (Siemens CVP)	11/30/22	100 %	$ 187	$ —	$ 187	COMB	$ 70	$
Meritor, Inc. (Meritor)	08/03/22	100 %	2,613	248	2,861	COMB	926	1
Jacobs Vehicle Systems (Jacobs)	04/08/22	100 %	345	—	345	COMB	108	
Cummins Westport, Inc. (Westport JV)	02/07/22	50 %	42	—	42	COMB	—	

(1) All results from acquired entities were included in segment results subsequent to the acquisition date. Previously consolidated ent were accounted for as equity transactions (EQUITY). Newly consolidated entities were accounted for as business combinations (CC

(2) Intangible assets acquired in the business combination were mostly customer, technology and trade name related.

(3) Total purchase consideration included $30 million for the settlement of accounts payable that were treated as an operating cash outflow.

(4) Hydrogenics entered into three non-interest-bearing promissory notes with $175 million paid on July 31, 2023, and the remaining million due in three installments through 2025.

(5) Total purchase consideration included $32 million for the settlement of accounts payable that were treated as an operating cash outflow.

Faurecia

On October 2, 2023, we purchased, from the Forvia Group, all of the equity ownership of Faurecia's U.S. and Europe commercial vehicle exhaust business for $210 million, subject to certain working capital and other customary adjustments, and does not contain any contingent consideration. The acquisition provides canning and assembly operations for full exhaust systems primarily for on-highway applications, ensures the long-term supply of aftertreatment components, minimizes opportunities for supply disruptions, adds significant technical and manufacturing resources and enhances our existing portfolio. The values assigned to individual assets acquired and liabilities assumed are preliminary based on management's current best estimate and subject to change as certain matters are finalized. The primary areas that remain open are related to contingent liabilities and deferred taxes.

The preliminary purchase price allocation was as follows:

In millions		
Cash and cash equivalents	$	8
Accounts and notes receivable, net [(1)]		52
Inventories		32
Property, plant and equipment		93
Goodwill		90
Other current and long-term assets		46
Accounts payable (principally trade)		(62)
Other current and long-term liabilities		(49)
Total purchase price	$	210

[(1)] Includes $30 million of Cummins receivables that were eliminated against payables at other Cummins entities.

Goodwill was determined based on the residual difference between the fair value of consideration transferred and the value assigned to tangible assets and liabilities. All of the goodwill is expected to be deductible for tax purposes. Among the factors contributing to a purchase price resulting in the recognition of goodwill are an acquired workforce and other economic benefits that are anticipated to arise from operational synergies from combining the business with Cummins.

The results of this business were reported in our Components segment within the emission solutions business. Since we are the primary customer of this business, the acquisition is not expected to result in material incremental sales to our business. Pro forma financial information for the acquisition was not presented as the effects were not material to our Consolidated Financial Statements.

Hydrogenics Corporation - Redeemable Noncontrolling Interest

On June 29, 2023, a share purchase agreement was executed with a 19 percent minority shareholder in one of our businesses, Hydrogenics Corporation (Hydrogenics), whereby we agreed to pay the minority shareholder $335 million for their 19 percent ownership, including the settlement of shareholder loans of $48 million. As part of the share purchase agreement, Hydrogenics entered into three non-interest-bearing promissory notes with $175 million paid on July 31, 2023, and the remaining $160 million due in three installments through 2025. We recorded the non-interest-bearing promissory notes at their present value in our Consolidated Financial Statements. The debt amount, net of unamortized debt discount, was $148 million and reflected in current maturities of long-term debt and long-term debt at December 31, 2023.

Prior to the execution of this transaction, the minority shareholder had, among other rights and subject to related obligations and restrictive covenants, rights that were exercisable between September 2022 and September 2026 to require us to (1) purchase such shareholder's shares (put option) at an amount up to the fair market value (calculated pursuant to a process outlined in the shareholders' agreement) and (2) sell to such shareholder Hydrogenics' electrolyzer business at an amount up to the fair market value of the electrolyzer business (calculated pursuant to a process outlined in the shareholders’ agreement). The estimated fair value of the put option was recorded as redeemable noncontrolling interests in our Consolidated Financial Statements with an offset to additional paid-in capital, and at December 31, 2022, the balance was $258 million. The redeemable noncontrolling interest balance was reduced to zero as of the acquisition date.

Teksid Hierro de Mexico, S.A. de C.V.

On April 3, 2023, we purchased all of the equity ownership interest of Teksid Hierro de Mexico, S.A. de C.V. (Teksid MX) and Teksid, Inc. from Stellantis N.V. for approximately $143 million (including $32 million for the settlement of accounts payable), subject to certain adjustments set forth in the agreement. Teksid MX operates a cast iron foundry located in Monclova, Mexico, which primarily forges blocks and heads used in our and other manufacturers’ engines. Teksid, Inc. facilitates the commercialization of Teksid MX products in North America. Since we are the primary customer of the foundry, the acquisition is not expected to result in material incremental sales to our business. Approximately $90 million of the purchase price was allocated to property, plant and equipment. The remainder was allocated primarily to working capital assets and liabilities (including approximately $16 million of cash and cash equivalents) and resulted in approximately $18 million of goodwill, none of which is deductible for tax purposes. In the third quarter we finalized the purchase accounting and made certain other adjustments, which resulted in a $7 million decrease in goodwill. The results of the business were reported in our Engine segment. Pro forma financial information for the acquisition was not presented as the effects were not material to our Consolidated Financial Statements.

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Siemens CVP

On November 30, 2022, we acquired Siemens' Commercial Vehicles Propulsion business for approximately $187 million, subject to working capital and other customary adjustments, and was allocated primarily to intangible assets, goodwill and inventories. This business develops, designs and produces electric drive systems including electric motors, inverters, software and related services for the commercial vehicle markets. This acquisition is included in our Accelera segment. This acquisition added key capabilities in direct drive and transmission-based remote mount electric motors, inverters, software and related services that are critical elements in the next generation of electric powertrain, which will accelerate our ability to offer global customers a wider array of electrified product solutions across commercial vehicle applications. Final purchase accounting adjustments did not significantly impact goodwill.

Meritor, Inc.

On August 3, 2022, we completed the acquisition of Meritor whereby we paid $36.50 per share for each outstanding share of Meritor, a global leader of drivetrain, mobility, braking, aftermarket and electric powertrain solutions for commercial vehicle and industrial markets. The total purchase price was $2.9 billion, including debt that was retired on the closing date of $248 million. In addition, we assumed $1.0 billion of additional debt, of which $0.9 billion was retired prior to the end of the third quarter of 2022. The acquisition was funded with a combination of $2.0 billion in new debt (see NOTE 13, "DEBT" for additional details), cash on hand and additional commercial paper borrowings. The integration of Meritor’s people, technology and capabilities position us as one of the few companies able to provide integrated powertrain solutions across combustion and electric power applications at a time when demand for decarbonized solutions is continuing to accelerate. The majority of this business was be included within our Components segment with the exception of the electric powertrain business, which was included in our Accelera segment.

The final purchase price allocation has been updated as follows:

In millions	
Cash and cash equivalents	$ 98
Accounts and notes receivable, net	640
Inventories	750
Property, plant and equipment	841
Intangible assets	1,610
Investments and advances related to equity method investees	382
Goodwill	926
Pension assets	147
Other current and long-term assets	322
Accounts payable (principally trade)	(711)
Net deferred taxes	(277)
Other liabilities (pensions and other postretirement benefits)	(129)
Long-term debt	(962)
Other current and long-term liabilities	(665)
Noncontrolling interests	(111)
Total purchase price	$ 2,861

During 2023, we finalized our accounting for the Meritor, Inc. acquisition. The primary components of the change were to increase contingent liabilities by $70 million offset by finalization of deferred taxes and tax reserves, with a net increase to goodwill of $32 million. There was no impact to the Consolidated Statements of Net Income for any of the changes.

The estimated fair values (all considered Level 3 measurements) of the identifiable intangible assets acquired, their weighted-average useful lives, the related valuation methodology and key assumptions are as follows:

	Fair Value (in millions)	Weighted-Average Useful Life (in years)	Valuation Methodology	Key Assumptions
Customer relationships	$ 960	12	Multi-period excess earnings	Revenue, EBITDA[1], discount rate, customer renewal rates, customer attrition rates
Technology	345	8	Relief-from-royalty	Royalty rate, discount rate, obsolescence factor
Trade name	305	21	Relief-from-royalty	Royalty rate, discount rate

[1] Earnings or losses before interest expense, income taxes, depreciation and amortization and noncontrolling interests.

Annual amortization of the intangible assets for the next five years is expected to approximate $142 million per year.

Goodwill was determined based on the residual difference between the fair value of consideration transferred and the value assigned to tangible and intangible assets and liabilities. Goodwill was allocated to the Components segment ($759 million) and the Accelera segment ($167 million) based on the relative value of those businesses compared to the assets and liabilities assigned to them. We do not expect any of the goodwill to be deductible for tax purposes. Among the factors contributing to a purchase price resulting in the recognition of goodwill are Meritor's expected future customers, new versions of technologies, an acquired workforce, other economic benefits that are anticipated to arise from future product sales and operational synergies from combining the business with Cummins.

Included in our results for the year ended December 31, 2022, were revenues of $1.9 billion and net loss of $43 million related to this business. In addition, in 2022 we incurred acquisition related costs of $30 million included in selling, general and administrative expenses in our Consolidated Statements of Net Income.

The following table presents the supplemental consolidated results of the Company for the years ended December 2022 and 2021, on an unaudited pro-forma basis as if the acquisition had been consummated on January 1, 2021. The primary adjustments reflected in the pro-forma results related to (1) increase in interest expense for debt used to fund the acquisition, (2) removal of acquisition related costs from 2022 (and included in 2021) and (3) changes related to purchase accounting primarily related to amortization of intangibles, fixed assets and joint ventures. The unaudited pro forma financial information presented below does not purport to represent the actual results of operations that Cummins and Meritor would have achieved had the companies been combined during the periods presented and was not intended to project the future results of operations that the combined company could achieve after the acquisition. The unaudited pro forma financial information does not reflect any potential cost savings, operating efficiencies, long-term debt pay down estimates, financial synergies or other strategic benefits as a result of the acquisition or any restructuring costs to achieve those benefits.

(Unaudited)	Years ended December 31,	
In millions	**2022**	**2021**
Net sales	$30,841	$27,949
Net income	2,196	2,058

The Meritor acquisition increased net assets in the Components segment by $3.8 billion and Accelera segment by $0.3 billion in 2022.

Jacobs Vehicle Systems

On April 8, 2022, we completed the acquisition of Jacobs Vehicle Systems business (Jacobs) from Altra Industrial Motion Corp. The purchase price was $345 million in cash and does not contain any contingent consideration. Jacobs is a supplier of engine braking, cylinder deactivation and start and stop thermal management technologies (valvetrain technologies). The acquisition furthers our investment in key technologies and capabilities to drive growth, while securing our supply base.

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The final purchase price allocation was as follows:

In millions		
Cash and cash equivalents	$	18
Accounts and notes receivable, net		24
Inventories		15
Property, plant and equipment		70
Intangible assets		164
Goodwill		108
Accounts payable (principally trade)		(21)
Net deferred taxes		(27)
Other, net		(6)
Total purchase price	$	345

The estimated fair values (all considered Level 3 measurements) of the identifiable intangible assets acquired, their weighted-average useful lives, the related valuation methodology and key assumptions are as follows:

	Fair Value (in millions)	Weighted-Average Useful Life (in years)	Valuation Methodology	Key Assumptions
Customer relationships	$ 108	9	Multi-period excess earnings	Discount rate, customer renewal rates
Technology	31	7	Relief-from-royalty	Royalty rate, rate of return, obsolescence factor
Trade name	25	14	Relief-from-royalty	Royalty rate, discount

Annual amortization of the intangible assets for the next five years is expected to approximate $18 million per year.

Goodwill was determined based on the residual difference between the fair value of consideration transferred and the value assigned to tangible and intangible assets and liabilities. Approximately $9 million of the goodwill is deductible for tax purposes. Among the factors contributing to a purchase price resulting in the recognition of goodwill are Jacobs' expected future customers, new versions of technologies, an acquired workforce and other economic benefits that are anticipated to arise from future product sales and operational synergies from combining the business with Cummins.

Included in our results for the year ended December 31, 2022, were revenues of $118 million and loss of $1 million related to this business. The results of this business were reported in our Components segment. Pro forma financial information for the acquisition was not presented as the effects were not material to our Consolidated Financial Statements.

Westport JV

On February 7, 2022, we purchased Westport Fuel System Inc.'s stake in Westport JV. We will continue to operate the business as the sole owner. The purchase price was $42 million and was allocated primarily to cash, warranty and deferred revenue related to extended coverage contracts. The results of the business were reported in our Engine segment. Pro forma financial information for the acquisition was not presented as the effects were not material to our Consolidated Financial Statements.

NOTE 25. OPERATING SEGMENTS

Operating segments under GAAP are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the Chief Operating Decision Maker (CODM), or decision-making group, in deciding how to allocate resources and in assessing performance. Our CODM is the Chief Executive Officer.

Our reportable operating segments consist of Components, Engine, Distribution, Power Systems and Accelera. This reporting structure is organized according to the products and markets each segment serves. The Components segment sells axles, drivelines, brakes and suspension systems for commercial diesel and natural gas applications, aftertreatment systems, turbochargers, fuel systems, valvetrain technologies, filtration products, automated transmissions and electronics. The Engine segment produces engines (15 liters and smaller) and associated parts for sale to customers in on-highway and various off-highway markets. Our engines are used in trucks of all sizes, buses and recreational vehicles, as well as in various industrial applications, including construction, agriculture, power generation systems and other off-highway applications. The Distribution segment includes wholly-owned and partially-owned distributorships engaged in wholesaling engines, generator sets and service parts, as well as performing service and repair activities on our products and maintaining relationships with various OEMs throughout the world. The Power Systems segment is an integrated power provider, which designs, manufactures and sells engines (16 liters and larger) for industrial applications (including mining, oil and gas, marine and rail), standby and prime power generator sets, alternators and other power components. The Accelera segment designs, manufactures, sells and supports hydrogen production technologies as well as electrified power systems with innovative components and subsystems, including battery, fuel cell and electric powertrain technologies. The Accelera segment is currently in the early stages of commercializing these technologies with efforts primarily focused on the development of our electrolyzers for hydrogen production and electrified power systems and related components and subsystems. We continue to serve all our markets as they adopt electrification and alternative power technologies, meeting the needs of our OEM partners and end customers.

We use segment earnings or losses before interest expense, income taxes, depreciation and amortization and noncontrolling interests (EBITDA) as the basis for the CODM to evaluate the performance of each of our reportable operating segments. We believe EBITDA is a useful measure of our operating performance as it assists investors and debt holders in comparing our performance on a consistent basis without regard to financing methods, capital structure, income taxes or depreciation and amortization methods, which can vary significantly depending upon many factors. Segment amounts exclude certain expenses not specifically identifiable to segments.

The accounting policies of our operating segments are the same as those applied in our Consolidated Financial Statements. We prepared the financial results of our operating segments on a basis that is consistent with the manner in which we internally disaggregate financial information to assist in making internal operating decisions. We allocate certain common costs and expenses, primarily corporate functions, among segments differently than we would for stand-alone financial information prepared in accordance with GAAP. These include certain costs and expenses of shared services, such as information technology, human resources, legal, finance and supply chain management. We do not allocate gains or losses of corporate owned life insurance and certain Atmus separation costs to individual segments. EBITDA may not be consistent with measures used by other companies.

As previously announced, in March 2023, we rebranded our New Power segment as "Accelera" to better represent our commitment to zero-emission technologies. In addition, we moved our NPROXX joint venture from the Accelera segment to the Engine segment, which adjusted both the equity, royalty and interest income from investees and segment EBITDA line items for the current and prior year. We started to report results for the changes within our operating segments effective January 1, 2023, and reflected these changes in the historical periods presented.

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Summarized financial information regarding our reportable operating segments at December 31, is shown in the table below:

In millions	Components	Engine	Distribution	Power Systems	Accelera	Total Segments
2023						
External sales	$ 11,531	$8,874	$ 10,199	$3,125	$ 336	$34,065
Intersegment sales	1,878	2,810	50	2,548	18	7,304
Total sales	13,409	11,684	10,249	5,673	354	41,369
Research, development and engineering expenses	387	614	57	237	203	1,498
Equity, royalty and interest income (loss) from investees	97	251	97	53	(15)	483
Interest income	31	19	34	9	2	95
Segment EBITDA	1,840 (1)	1,630	1,209	836	(443)	5,072
Depreciation and amortization (2)	491	225	115	122	63	1,016
Net assets	6,965	930	2,348	1,938	1,159	13,340
Investments and advances to equity investees	582	660	396	132	25	1,795
Capital expenditures	373	538	103	115	84	1,213
2022						
External sales	$ 7,847	$ 8,199	$ 8,901	$ 2,951	$ 176	$ 28,074
Intersegment sales	1,889	2,746	28	2,082	22	6,767
Total sales	9,736	10,945	8,929	5,033	198	34,841
Research, development and engineering expenses	309	506	52	240	171	1,278
Equity, royalty and interest income (loss) from investees	71	160 (3)	77	43	(2)	349
Interest income	12	14	16	7	—	49
Russian suspension costs (4)	5	33 (5)	54	19	—	111
Segment EBITDA	1,346 (6)	1,535	888	596	(334)	4,031
Depreciation and amortization (2)	304	205	114	120	38	781
Net assets	7,306	1,451	2,698	2,382	1,158	14,995
Investments and advances to equity investees	617	617	352	138	33	1,757
Capital expenditures	264	368	114	96	74	916
2021						
External sales	$ 5,932	$ 7,589	$ 7,742	$ 2,650	$ 108	$ 24,021
Intersegment sales	1,733	2,365	30	1,765	8	5,901
Total sales	7,665	9,954	7,772	4,415	116	29,922
Research, development and engineering expenses	307	399	48	234	102	1,090

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A reconciliation of our segment information to the corresponding amounts in the Consolidated Statements of Net Income is shown in the table below:

	Years ended December 31,		
In millions	**2023**	**2022**	**2021**
TOTAL SEGMENT EBITDA	**$ 5,072**	$ 4,031	$ 3,595
Intersegment eliminations and other [(1)]	**(2,055)**	(232)	(74)
Less:			
Interest expense	**375**	199	111
Depreciation and amortization	**1,016**	781	659
INCOME BEFORE INCOME TAXES	**$ 1,626**	$ 2,819	$ 2,751

[(1)] Intersegment eliminations and other included $2.0 billion related to the Agreement in Principle, $22 million of costs associated with the IPO and separation of Atmus and $21 million of voluntary retirement and voluntary separation charges for the year ended December 31, 2023. The year ended December 31, 2022, included $53 million of costs associated with the planned separation of Atmus. See NOTE 2, "AGREEMENT IN PRINCIPLE," for additional information.

A reconciliation of our segment net assets to the corresponding amounts in the Consolidated Balance Sheets is shown in the table below:

	December 31,	
In millions	**2023**	**2022**
Net assets for operating segments	**$13,340**	$14,995
Cash, cash equivalents and marketable securities	**2,741**	2,573
Net liabilities deducted in arriving at net segment assets [(1)]	**14,531**	11,270
Pension and OPEB adjustments excluded from net segment assets	**307**	832
Deferred tax assets not allocated to segments	**1,082**	625
Deferred debt costs not allocated to segments	**4**	4
Total assets	**$32,005**	$30,299

[(1)] Liabilities deducted in arriving at net segment assets include certain accounts payable, accrued expenses, long-term liabilities and other items.

See NOTE 3, "REVENUE FROM CONTRACTS WITH CUSTOMERS," for segment net sales by geographic area.

Long-lived assets include property, plant and equipment, net of depreciation, investments and advances to equity investees and other assets, excluding deferred tax assets, refundable taxes and deferred debt expenses. Long-lived segment assets by geographic area were as follows:

	December 31,	
In millions	**2023**	**2022**
United States	**$ 5,013**	$ 4,714
China	**1,030**	1,052
India	**681**	665
Mexico	**583**	429
United Kingdom	**489**	431
Netherlands	**437**	334
Brazil	**261**	256
Canada	**171**	168
Other international countries	**819**	731
Total long-lived assets	**$ 9,484**	$ 8,780

Our largest customer is PACCAR Inc. Worldwide sales to this customer were approximately $5.5 billion, $4.5 billion and $3.6 billion for the years ended December 31, 2023, 2022 and 2021, representing 16 percent, 16 percent and 15 percent, respectively, of our consolidated net sales. No other customer accounted for more than 10 percent of consolidated net sales.

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

None.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this Annual Report on Form 10-K, our management evaluated, with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of the design and operation of our disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15d-15(e). Based upon that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2023, that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

The information required by Item 9A relating to Management's Annual Report on Internal Control Over Financial Reporting and Attestation Report of the Registered Public Accounting Firm is incorporated herein by reference to the information set forth under the captions "Management's Report on Internal Control Over Financial Reporting" and "Report of Independent Registered Public Accounting Firm," respectively, under Item 8.

ITEM 9B. Other Information

(a) On February 12, 2024, the Talent Management and Compensation Committee (TMCC) of the Company's Board of Directors adopted a Deposit Share Program for 2024 (2024 Program) under which designated participants, including certain of the Company’s named executive officers, will be eligible to receive matching grants of restricted stock units if they commit newly acquired shares of the Company’s common stock within a designated range to the 2024 Program and agree to hold those newly acquired shares for four years. The 2024 Program replaces the previously disclosed Deposit Share Program that was adopted in 2023 but not implemented.

In the 2024 Program, the number of newly acquired shares in the designated range will be based on percentages of the participants’ base salaries approved by the TMCC, divided by the average closing price per share of the Company’s common stock over a 20 trading day period. The shares may be acquired in open market purchases or under certain equity compensation awards. The matching grants of restricted stock units will cliff vest on the fourth anniversary of the participation deadline if the participant has remained continuously employed and has satisfied the holding requirement for the newly acquired shares.

The purposes of the 2024 Program include encouraging long-term retention and continuity and alignment of interests with the Company’s shareholders. The named executive officers who are eligible to participate in the 2024 Program include Jennifer W. Rumsey, Chair and

Chief Executive Officer, and Mark Smith, Vice President and Chief Financial Officer, with designated ranges for newly acquired shares and matching restricted stock units of 100 percent-200 percent and 75 percent-150 percent, respectively, of base salary.

The preceding description is a summary only and is qualified in its entirety by the 2024 Program, which is filed as Exhibit 10(y) to this Annual Report on Form 10-K and incorporated herein by reference.

(b) During the fourth quarter of 2023, none of our directors or executive officers adopted or terminated any “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement” (as each term is defined in Item 408(a) of Regulation S-K).

ITEM 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not Applicable.

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PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 is incorporated by reference to the relevant information under the captions "Corporate Governance" and "Election of Directors" in our 2024 Proxy Statement, which will be filed within 120 days after the end of 2023. Information regarding our executive officers may be found in Part 1 of this annual report under the caption "Information About Our Executive Officers." Except as otherwise specifically incorporated by reference, our Proxy Statement is not deemed to be filed as part of this annual report.

ITEM 11. Executive Compensation

The information required by Item 11 is incorporated by reference to the relevant information under the caption "Executive Compensation" in our 2024 Proxy Statement, which will be filed within 120 days after the end of 2023.

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

Information concerning our equity compensation plans at December 31, 2023, was as follows:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights[1]	Weighted-average exercise price of outstanding options, warrants and rights[2]	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)
Equity compensation plans approved by security holders	2,612,273	$ 146.89	4,010,884

[1] The number is comprised of 1,814,420 stock options, 487,513 performance shares and 310,340 restricted shares. See Note 19, "STOCK INCENTIVE AND STOCK OPTION PLANS," to the Consolidated Financial Statements for a description of how options and shares are awarded.

[2] The weighted-average exercise price relates only to the 1,814,420 stock options. Performance and restricted shares do not have an exercise price and, therefore, are not included in this calculation.

We have no equity compensation plans not approved by security holders.

The remaining information required by Item 12 is incorporated by reference to the relevant information under the caption "Stock Ownership of Directors, Management and Others" in our 2024 Proxy Statement, which will be filed within 120 days after the end of 2023.

ITEM 13. Certain Relationships, Related Transactions and Director Independence

The information required by Item 13 is incorporated by reference to the relevant information under the captions "Corporate Governance" and "Other Information-Related-Party Transactions" in our 2024 Proxy Statement, which will be filed within 120 days after the end of 2023.

ITEM 14. Principal Accounting Fees and Services

The information required by Item 14 is incorporated by reference to the relevant information under the caption "Ratification of Independent Public Accountants" in our 2024 Proxy Statement, which will be filed within 120 days after the end of 2023.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

(a) The following Consolidated Financial Statements and schedules filed as part of this report can be found in Item 8 "Financial Statements and Supplementary Data":

- **Management's Report to Shareholders**
- **Report of Independent Registered Public Accounting Firm**
- **Consolidated Statements of Net Income for the years ended December 31, 2023, 2022 and 2021**
- **Consolidated Statements of Comprehensive Income for the years ended December 31, 2023, 2022 and 2021**
- **Consolidated Balance Sheets at December 31, 2023 and 2022**
- **Consolidated Statements of Cash Flows for the years ended December 31, 2023, 2022 and 2021**
- **Consolidated Statements of Changes in Redeemable Noncontrolling Interests and Equity for the years ended December 31, 2023, 2022 and 2021**
- **Notes to the Consolidated Financial Statements**

(b) Financial Statement Schedules

Separate financial statement schedules were omitted because such information was inapplicable or was included in the financial statements or notes described above.

(c) The exhibits listed in the following Exhibit Index are filed as part of this Annual Report on Form 10-K.

CUMMINS INC.

Exhibit No.	Description of Exhibit
2 (a)	Agreement and Plan of Merger, dated February 21, 2022, by and among Meritor, Inc., Cummins Inc. and Rose NewCo Inc. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on February 24, 2022 (File No. 001-04949)).
3 (a)	Restated Articles of Incorporation, as amended and restated, effective as of May 8, 2018 (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on May 9, 2018 (File No. 001-04949)).
3 (b)	By-Laws, as amended and restated, effective as of February 12, 2019 (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on February 13, 2019 (File No. 001-04949)).
4 (a)	Indenture, dated as of September 16, 2013, by and between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-3 filed with the Securities and Exchange Commission on September 16, 2013 (Registration Statement No. 333-191189)).
4 (b)	Second Supplemental Indenture, dated as of September 24, 2013, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.2 of the Current Report on 8-K, filed by Cummins Inc. with the Securities and Exchange Commission on September 24, 2013 (File No. 001-04949)).
4 (c)	Third Supplemental Indenture, dated as of August 24, 2020, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on August 24, 2020 (File No. 001-04949)).
4 (d)	Fourth Supplemental Indenture, dated as of August 24, 2020, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.3 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on August 24, 2020 (File No. 001-04949)).
4 (e)	Fifth Supplemental Indenture, dated as of August 24, 2020, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.4 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on August 24, 2020 (File No. 001-04949)).
4 (f)	Description of Capital Stock (incorporated by reference to Exhibit 4(d) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-04949)).
10 (a)#	Target Bonus Plan (incorporated by reference to Exhibit 10(b) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009 (File No. 001-04949)).
10 (b)#	Amendment to the Cummins Inc. Deferred Compensation Plan (incorporated by reference to Exhibit 10(c) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-04949)).
10 (c)#	Deferred Compensation Plan, as amended and restated February 15, 2021 (incorporated by reference to Exhibit 10(a) to Cummins Inc.’s Quarterly Report on Form 10-Q for the quarter ended April 4, 2021 (File No. 001-04949)).
10 (d)#	Supplemental Life Insurance and Deferred Income Plan, as amended and restated effective as of December 10, 2018 (incorporated by reference to Exhibit 10(d) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-04949)).
10 (e)#	Deferred Compensation Plan for Non-Employee Directors, as amended and restated February 15, 2021 (incorporated by reference to Exhibit 10(b) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended April 4, 2021 (File No. 001-04949)).
10 (f)#	Excess Benefit Retirement Plan, as amended (incorporated by reference to

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10 (q)	Fifth Amended and Restated 364-Day Credit Agreement, dated as of June 5, 2023, by and among Cummins Inc., the subsidiary borrowers referred to therein, the Lenders party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent.(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on June 7, 2023 (File No. 001-04949)).
10 (r)	Amended and Restated Credit Agreement, dated as of August 18, 2021, by and among Cummins Inc., the subsidiary borrowers referred to therein, the Lenders and Agents party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent. (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on August 18, 2021 (File No. 001-04949)).
10 (s)	Amendment No. 1 to Amended and Restated Credit Agreement, dated as of August 17, 2022, by and among Cummins Inc., the subsidiary borrowers referred to therein, the Lenders party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent. (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on August 19, 2022 (File No.001-04949)).
10 (t)#	Amendment No. 1 to Supplemental Life Insurance and Deferred Income Plan, effective as of July 14, 2020 (incorporated by reference to Exhibit 10.1 to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 27, 2020 (File No. 001-04949)).
10 (u)	Loan Agreement, dated as of July 13, 2022, by and among Cummins Inc., the lenders from time to time party thereto, and Wells Fargo Bank, National Association, as Administrative Agent.(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on July 19, 2022 (File No. 001-04949)).
10 (v)	Credit Agreement, dated as of September 30, 2022, among FILT Red, Inc., Cummins Filtration Inc., the lenders party thereto, and Bank of America, N.A., as administrative agent. (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on September 30, 2022 (File No.001-04949)).
10 (w)	Amendment No. 1 to Credit Agreement, dated as of February 15, 2023, among Atmus Filtration Technologies Inc., Cummins Filtration Inc, the lenders party thereto, and Bank of America, N.A., as administrative agent (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on February 15, 2023 (File No. 001-04949)).
10 (x)	Guaranty, dated as of September 30, 2022, by Cummins Inc. in favor of Bank of America, N.A., as administrative agent for the lenders party to the Credit Agreement. (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed by Cummins Inc. with the Securities and Exchange Commission on September 30, 2022 (File No.001-04949)).
10 (y)#	Cummins Inc. Deposit Share Program, dated as of February 12, 2024 (filed herewith).
21	Subsidiaries of the Registrant (filed herewith).
23	Consent of PricewaterhouseCoopers LLP (filed herewith).
24	Powers of Attorney (filed herewith).
31 (a)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31 (b)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32	Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
97	Cummins Inc. Compensation Recovery Policy (filed herewith).
101. INS*	Inline XBRL Instance Document - the instance document does not appear in the

A management contract or compensatory plan or arrangement.

* Filed with this annual report on Form 10-K are the following documents formatted in iXBRL (Inline Extensible Business Reporting Language): (i) the Consolidated Statements of Net Income for the years ended December 31, 2023, 2022 and 2021, (ii) the Consolidated Statements of Comprehensive Income for the years ended December 31, 2023, 2022 and 2021, (iii) the Consolidated Balance Sheets for the years ended December 31, 2023 and 2022, (iv) the Consolidated Statements of Cash Flows for the years ended December 31, 2023, 2022 and 2021, (v) the Consolidated Statements of Changes in Redeemable Noncontrolling Interests and Equity for the years ended December 31, 2023, 2022 and 2021, (vi) Notes to the Consolidated Financial Statements and (vii) the information included in Part II, Item 9B(b).

ITEM 16. Form 10-K Summary (optional)

Not Applicable.

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.

CUMMINS INC.

By:	/s/ MARK A. SMITH	By:	/s/ LUTHER E. PETERS
	Mark A. Smith Vice President and Chief Financial Officer (Principal Financial Officer)		Luther E. Peters Vice President—Corporate Controller (Principal Accounting Officer)

Date: February 12, 2024

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.

Signatures	Title	Date
/s/ JENNIFER RUMSEY Jennifer Rumsey	Chair and Chief Executive Officer (Principal Executive Officer)	February 12, 2024
/s/ MARK A. SMITH Mark A. Smith	Vice President and Chief Financial Officer (Principal Financial Officer)	February 12, 2024
/s/ LUTHER E. PETERS Luther E. Peters	Vice President—Corporate Controller (Principal Accounting Officer)	February 12, 2024
* Gary L. Belske	Director	February 12, 2024
* Robert J. Bernhard	Director	February 12, 2024
* Bruno V. Di Leo Allen	Director	February 12, 2024
* Stephen B. Dobbs	Director	February 12, 2024
* Daniel W. Fisher	Director	February 12, 2024
* Carla A. Harris	Director	February 12, 2024
* Thomas J. Lynch	Director	February 12, 2024
* William I. Miller	Director	February 12, 2024
* Georgia R. Nelson	Director	February 12, 2024
* Kimberly A. Nelson	Director	February 12, 2024
* Karen H. Quintos	Director	February 12, 2024

*By: /s/ MARK A. SMITH

Mark A. Smith
Attorney-in-fact