

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

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2022
OR

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____
Commission file number 033-90866

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

30 Isabella Street
Pittsburgh, Pennsylvania 15212
(Address of principal executive offices, including zip code)

25-1615902
(IRS Employer
Identification No.)

(412) 825-1000
(Registrant's telephone number)

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

Class	Trading Symbol	Name of Exchange on which registered
Common Stock, par value \$.01 per share	WAB	New York Stock Exchange

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

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

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

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

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

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>	Non-accelerated filer	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>		

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

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

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

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

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

The registrant estimates that as of June 30, 2022, the aggregate market value of the voting shares held by non-affiliates of the registrant was approximately \$15.0 billion based on the closing price on the New York Stock Exchange for such stock.

As of February 10, 2023, 180,352,300 shares of Common Stock of the registrant were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Proxy Statement for the registrant's Annual Meeting of Stockholders to be held on May 17, 2023 are incorporated by reference into Part III of this Form 10-K.

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PART I

Item 1. BUSINESS

General

Westinghouse Air Brake Technologies Corporation, doing business as Wabtec Corporation, is a Delaware corporation with headquarters at 30 Isabella Street in Pittsburgh, Pennsylvania. Our telephone number is 412-825-1000, and our website is located at www.wabteccorp.com. Except as the context otherwise requires, all references to “we”, “our”, “us”, the “Company” and “Wabtec” refer to Westinghouse Air Brake Technologies Corporation and its consolidated subsidiaries. George Westinghouse founded the original Westinghouse Air Brake Co. in 1869 when he invented the air brake. Westinghouse Air Brake Company (“WABCO”) was formed in 1990 when it acquired certain assets and operations from American Standard, Inc., now known as Trane (“Trane”). The Company went public on the New York Stock Exchange in 1995.

Throughout the years, the Company has made a number of strategic acquisitions leading the Company to where it is today. These have primarily included:

- the 1999 merger with MotivePower Industries, Inc. whereby the Company adopted its current name of Westinghouse Air Brake Technologies Corporation, or Wabtec;
- the 2017 acquisition of Faiveley Transport, S.A. (“Faiveley Transport”), a leading provider of value-added, integrated systems and services, primarily for the global transit rail market. Based in France, the Faiveley Transport business has roots to 1919 and made Wabtec a leader in manufacturing pantographs, automatic door mechanisms, air conditioning systems, railway braking systems and couplers; and,
- the 2019 acquisition of GE Transportation, a business unit of General Electric Company. This brought a global technology leader and supplier of locomotives, equipment, services and digital solutions to the rail, mining, marine, stationary power and drilling industries into Wabtec.

As a result of those strategic acquisitions, as well as other smaller acquisitions and organic growth, Wabtec is now one of the world’s largest providers of value-added, technology-based locomotives, equipment, systems and services for the global freight rail and passenger transit industries, and also serves customers in the mining, marine, and industrial markets. Wabtec has approximately 27,000 employees, excluding contingent workers, and operations in over 50 countries. We hold a leading market share for many of our core product lines globally. Our highly engineered products, which are intended to enhance safety, improve productivity and reduce maintenance costs for customers, can be found on most locomotives, freight cars, passenger transit cars and buses around the world.

Through both internal growth as well as acquisitions, Wabtec has positioned itself with the following strategic strengths:

- *Diversity of revenues by product, geography and market.* Comprehensive product and service offerings spanning the freight rail and passenger transit industries, as well as products in the bus, mining, marine, and discrete industrial markets help Wabtec to balance the cyclical nature of the global rail business.
- *Significant operating synergies and improved financial profile.* The acquisition and integration of GE Transportation has led to operating synergies across all of Wabtec. Wabtec continues to focus on realizing operating synergies from smaller strategic bolt-on acquisitions as well as driving operational efficiencies through the previously announced Integration 2.0 initiative, a three-year strategic initiative that targets operational synergies and supports Wabtec's margin improvement through productivity gains. Wabtec is also focused on earnings growth through expanding high-margin recurring revenue streams.
- *Exceptional technical and engineering expertise.* Wabtec's engineers and technical capabilities support continued focus on innovative product development and efforts to achieve scalable technologies. Our technology expertise and investment in technology is key for Wabtec leading the decarbonization of the rail industry.
- *Scale of Wabtec's operations.* Wabtec is one of the world’s largest providers of technology-enabled locomotives and equipment, freight car components, systems, and services for the freight rail and passenger transit industries. The size of Wabtec's operations enables the Company to achieve economies of scale, in addition to using best-cost locations for executing on operational decisions.
- *Complementary Digital and Electronics technologies.* Wabtec has a comprehensive digital and electronics portfolio and leading engineering and technical intellectual property, which provides electronics and digital technologies to meet growing demand for train intelligence and network optimization.
- *Enhanced Aftermarket and Services opportunities.* Wabtec has an installed base of more than 23,000 locomotives and content on virtually all North American locomotives and freight cars, as well as a diverse offering of Transit

locomotives and cars both internationally and domestically, which enables significant opportunities in the higher-margin aftermarket parts and services business and mitigates the exposure to cycles.

Industry Overview

The Company primarily serves the global freight rail and passenger transit industries. As such, our operating results are largely dependent on the level of activity, financial condition and capital spending plans of freight railroads and passenger transit agencies around the world, and transportation equipment manufacturers who serve those markets. Many factors influence these industries, including general economic conditions; traffic volumes, as measured by freight carloads and passenger ridership; government spending on public transportation; and investment in new technologies. In general, trends such as urbanization and growth in developing markets, sustainability and environmental awareness, investment in technology solutions, an aging equipment fleet, and growth in global trade are expected to drive continued investment in freight rail and passenger transit.

The Association of the European Rail Industry, UNIFE, advocates for and represents European train builders and rail suppliers. UNIFE publishes a biennial market study that provides an overview of the market in its current form and a forecast of its future development in different regions and market segments. The 2022 biennial edition of the study concluded that the rail supply industry faced a moderate annual decline of 0.2% in the 2019 to 2020 period as a result of the negative impacts of the COVID-19 pandemic but forecasts a recovery of the global rail supply market with a compound annual growth rate of 3% through 2027.

As growth continues, Wabtec expects to have additional opportunities to provide products and services in these markets. New technologies offered by Wabtec can provide solutions to improve safety, cost and reliability of rail, as well as support the modernization of the global rail fleets. Consistent with the 2020 UNIFE study, increased investment in infrastructure improvements, digitalization and automation is expected, all of which would improve efficiency in the global rail industry.

Business Segments and Products

We provide our products and services through two principal business segments, the Freight Segment and the Transit Segment, both of which have different market characteristics and business drivers. The Freight Segment primarily manufactures new locomotives; provides aftermarket parts and services to existing locomotives; provides components to new and existing freight cars; builds new commuter locomotives; supplies rail control and infrastructure products including electronics, positive train control equipment, signal design and engineering services; provides a comprehensive suite of software-enabled solutions designed to improve customer efficiency and productivity in the transportation and mining industries; overhauls locomotives; and provides heat exchangers and cooling systems for rail and other industrial markets. Customers include large, publicly traded railroads, leasing companies, manufacturers of original equipment such as locomotives and freight cars, utilities, and companies in the mining, marine, and industrial markets. We are the largest global manufacturer of diesel-electric locomotives for freight railroads producing mission-critical products and solutions that help railroads reduce operating costs, decrease fuel use, minimize downtime and comply with emissions standards. As a result of the large base of more than 23,000 locomotives currently in use, Wabtec's Services product lines of modernizing, rebuilding, remanufacturing, maintaining, and exchanging locomotives and components in the aftermarkets provides a significant, recurring revenue stream. In 2022, the Freight Segment accounted for approximately 72% of Wabtec's total net sales, with approximately 56% of its net sales in the U.S. In 2022, approximately 66% of the Freight Segment's net sales were in the aftermarket.

The Transit Segment primarily manufactures and services components for new and existing passenger transit vehicles, typically regional trains, high speed trains, subway cars, light-rail vehicles and buses; supplies rail control and infrastructure products including electronics, signal design and engineering services; and refurbishes passenger transit vehicles. Customers include public transit authorities and municipalities, leasing companies, and manufacturers of passenger transit vehicles and buses around the world. In 2022, the Transit Segment accounted for approximately 28% of our total net sales, with approximately 17% of its net sales in the U.S. Approximately half of the Transit Segment's net sales are in the aftermarket with the remainder in the original equipment market.

The following is a summary of our leading products in both aftermarket and original equipment across both of our business segments:

Equipment:

- Diesel-electric, battery, and liquid natural gas powered locomotives for freight and transit
- Engines, electric motors and premium propulsion systems used in locomotives, mining, marine, stationary power and drilling applications
- Marine and mining products

Digital & Electronic Products:

- Positive Train Control ("PTC") equipment and electronically controlled pneumatic braking products
- Railway electronics, including event recorders, monitoring equipment and end of train devices
- Signal design and engineering services
- Train performance such as distributed locomotive power, train 'cruise control', and train remote control
- Transport intelligence such as Industrial/mobile Internet of Things (IoT) hardware & software, edge-to-cloud, on and off-board analytics & rules, and asset performance management
- Transport logistics such as rail transportation management, shipper transportation management, and port visibility and optimization
- Network optimization such as rail network scheduling, dispatch and optimization, intermodal, terminal management and optimization, and rail yard management and optimization

Components:

- Freight car trucks and braking equipment and related components for Freight applications
- Draft gears, couplers and slack adjusters
- Air compressors and dryers
- Heat exchangers and cooling products for locomotives and power generation equipment
- Track and switch products
- New commuter and switcher locomotives
- Turbochargers for industrial and aftermarket vehicle applications

Services:

- Freight locomotive overhaul, modernizations and refurbishment
- Master service agreements for locomotive and car maintenance
- Transit locomotive and car overhaul
- Unit exchange of locomotive components
- Maintenance of way equipment and services

Transit Products:

- Railway and freight braking equipment and related components, including high-speed passenger transit vehicles
- Friction products, including brake shoes, discs and pads
- Heating, ventilation and air conditioning equipment
- Access doors and platform screen doors
- Pantographs and third rail collectors
- Energy measuring systems
- Auxiliary power converter and battery charging
- Antifire systems
- Passenger information systems and CCTV
- Signaling and railway electric relays
- Sanitation systems
- Doors, window assemblies, accessibility lifts and ramps for buses
- Electric charging solutions for buses and electric ferries

We are a leader in the freight rail and passenger transit industries by capitalizing on the strength of our existing products, technological capabilities and new product innovations, and by our ability to harden products to protect them from severe

conditions, including extreme temperatures and high-vibration environments. Supported by our technical staff of more than 6,300 engineers and specialists, we have extensive experience in a broad range of product lines, which enables us to provide comprehensive, systems-based solutions for our customers.

We have continued to develop Energy Management Solutions for railroads to further reduce fuel consumption and emissions. These developments include the design of a battery electric locomotive that will be integrated with other diesel electric locomotives in a train. This hybrid consist, under the control of our Trip Optimizer software, will significantly reduce fuel consumption and have the ability to operate in a low emission state while in populated areas. In 2021, Wabtec and a Class I completed a three month pilot of a battery electric locomotive which reduced fuel consumption and greenhouse gas emissions by an average of 11% in a revenue service train. In 2022, this battery electric locomotive was recognized for sustainable innovation by the Business Intelligence Group and awarded “Commercial Technology of the Year” at the Platts Global Energy Awards.

In recent years, we have also introduced a number of significant new products, including PTC equipment that encompasses onboard digital data and global positioning communication protocols. We are making additional investments in this technology which we believe will provide customers with opportunities to improve safety and efficiency, in part through data analytics solutions. Other new products include HVAC inverter integrated solutions, brake discs and brake controls, platform doors and gates and door controllers.

For additional information on our business segments, see Note 19 of “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this report.

Competitive Strengths

Our key strengths include:

- **Iconic legacy and strong reputation with a history of over 150 years of innovation.** Wabtec has been at the forefront of shaping and transforming the rail landscape through various innovations and technologies for over 150 years. We are a recognized leader in the development and production of electronic recording, measuring and communications systems, PTC equipment, highly engineered compressors and heat exchangers for locomotives, and a leading manufacturer of freight car components, including electronic braking equipment, draft gears, trucks, brake shoes, and electronic end-of-train devices. We are also a leading provider of braking equipment; heating, ventilation and air conditioning equipment; door assemblies and platform screen doors; lifts and ramps; couplers and current collection equipment, such as pantographs, for passenger transit vehicles.
- **Breadth of product offering with a stable mix of original equipment market (OEM) and aftermarket business.** Our product portfolio is one of the broadest in the rail industry, as we offer a wide selection of quality parts, components and assemblies across the entire train and worldwide. We provide our products in both the original equipment market and the aftermarket. Our substantial installed base of products with end-users such as the railroads and the passenger transit authorities is a significant competitive advantage for providing products and services to the aftermarket because these customers often look to purchase safety- and performance-related replacement parts from the original equipment components supplier. Sales of aftermarket parts and services typically represent approximately 60% of our total net sales.
- **Leading design and engineering capabilities.** We believe a hallmark of our relationship with our customers has been our leading design and engineering practice, which has assisted in the improvement and modernization of global railway equipment. We believe both our customers and government authorities value our technological capabilities and commitment to innovation, as we seek not only to enhance the efficiency and profitability of our customers, but also to improve the overall safety of the railways through continuous improvement of product performance. To that end, we have assembled a wide range of patented products, which we believe provides us with a competitive advantage.
- **Market leader in decarbonizing the rail industry.** Today, rail represents the cleanest, most energy efficient, and safest mode of moving freight and people on land. As global demands for growth increase, current trends indicate that freight and passenger rail activity will more than double by 2050, leading to an increased demand for sustainable transportation of people and goods. These converging forces highlight the critical interplay between market dynamics, the need for decarbonization and Wabtec’s business strategy. We are advancing our sustainability priorities both through our own commitments to our people, communities, and planet, as well as by innovating next generation technologies that reduce emissions, energy consumption and waste, and increase fuel efficiency for our customers through advancements in our equipment and digital solutions.
- **Driving the digital transformation of the rail industry.** Our early investment in data analytics and software has allowed us to become a strategic partner for customers looking to derive new value from assets and digitally transform their operations. Through these initiatives, our digital solutions have helped to transform many distribution channels in the transportation industry including mine to ports, from shipper to receiver, from port to intermodal terminals to main

line locomotives and railcars and across train yards and operation centers. The breadth of our Digital and Electronic solutions gives customers confidence in our ability to address their current and future needs.

- **Strategic partnerships with longstanding customers and other key stakeholders.** We listen to our key stakeholders and focus on areas where Wabtec can enable the most meaningful impact for our customers, communities, and the world. Transformational change requires collaboration, so we are committed to accelerating progress by partnering with customers, government leaders, corporations, universities and other key stakeholders. For example, we have partnered with a customer, a leading short line and regional freight railroad, as well as a leading artificial intelligence and robotics institution to create technologies that will further decarbonize freight rail transport, improve freight safety, and generate greater rail network utilization. We also have collaborated with a global transportation company focused on the development and commercialization of battery technology and hydrogen fuel cell systems for Wabtec locomotives. By working together with these partners and others, we are developing advanced solutions for the industry to realize the zero-emission rail network of the future.
- **Experience with industry regulatory requirements.** The freight rail and passenger transit industries are governed by various government agencies and regulators in each country and region. These groups mandate rigorous manufacturer certification and a new product testing and approval processes that we believe are difficult for new entrants to meet cost-effectively and efficiently without the scale and extensive experience we possess.
- **Streamlined cost structure and operational excellence provide operating leverage and support Wabtec's growth.** We focus on driving continuous operational improvement across the organization by sharing best practices, instilling a culture of learning, problem solving and continuous improvement, and driving standard operating practices. This culture is illustrated by the launch of Integration 2.0 in 2022.

Business Strategy

We strive to generate sufficient cash to invest in our growth strategies and to build on what we consider to be a leading position as a low-cost producer in the industry while maintaining world-class product quality, technology and customer responsiveness. We continuously strive to improve quality, delivery and productivity, and to reduce costs utilizing global sourcing and supply chain management. These practices enable us to streamline processes, improve product reliability and customer satisfaction, reduce product cycle times and respond more rapidly to market developments. We also rely on functional experts within the Company across various disciplines to train, coach and share best practices throughout the Company, while benchmarking against best-in-class competitors and peers. Over time, we expect to continue to increase operating margins, improve cash flow and strengthen our ability to invest in the following growth strategies:

- **Accelerate innovation of scalable technologies.** We continue to emphasize innovation and development funding to create new products and capabilities to increase customer productivity, efficiency, capacity, utilization and safety, such as the battery electric locomotive, vehicle monitoring and data analytics. We will continue to lead the way with technologies that use less energy, reduce weight and size, and increase recyclability. We plan to invest in bringing new technologies to market for our customers. A significant portion of our investment will be focused on three customer-centric areas of innovation: zero-emissions operations, automation and digitization and advanced supply chain visibility. These investments will position our customers for success and make these technologies the standard going forward. We have a multi-year initiative to build on our existing expertise and technologies in the digital and electronics areas. In addition, we invest in developing enhancements and new features to existing products, such as brake discs and heat exchangers. We are focusing on technological advances, especially in the areas of electronics, battery power and alternative fuels, braking products and other on-board equipment, as a means to deliver new product growth. We seek to provide customers with incremental technological advances that offer immediate benefits with cost-effective investments.
- **Grow and refresh expansive installed base.** We are a leading transportation and component manufacturer with a significant installed base with expansive product and service capabilities. We have over 23,000 locomotives in service, the majority of which are equipped with Digital technologies, like Positive Train Control. We intend to increase sales through direct sales of existing products to current and new customers, by developing specific new products for application in new geographic markets, by making strategic acquisitions and through joint ventures with railway suppliers which have a strong presence in their local markets. We believe that international markets represent a significant opportunity for future growth. In Transit, we are focused on mature markets such as Europe and emerging markets such as India. In Freight, we are targeting markets that operate significant fleets of North American-style locomotives and freight cars, including Australia, Brazil, China, Egypt, India, South Africa and other select areas within Europe, Asia and South America. In addition, we have opportunities to increase the sale of certain products that we currently manufacture for the rail industry into other industrial markets, such as mining, off-highway and energy.
- **Lead the decarbonization of rail.** We have taken significant steps to decarbonize global transport and make our world safer, smarter and greener. Today, rail represents the cleanest, most energy efficient and safest mode of moving freight

and people on land. As global demands for growth increase, current trends indicate that freight and passenger rail activity will more than double by 2050, leading to an increased demand for sustainable transportation of people and goods. These converging forces highlight the critical interplay between market dynamics, the need for decarbonization and Wabtec's business strategy. Wabtec is leading the transition to a more utilized, efficient, and low-carbon rail network. Alternative clean energy technologies are critical in the fight against climate change and reducing greenhouse gas emissions. We are helping our customers reduce their overall carbon footprint through the development of low-emitting locomotives like our Tier 4 and battery-electric locomotives, Trip Optimizer, Green Air and Green Friction products, and the use of alternative fuels such as biodiesel, renewable diesel, and hydrogen.

- **Expand high-margin recurring revenue streams.** Our expansive installed base allows us to generate strong recurring revenues with replacement parts and components, digital solutions, overhauls and modernizations. Aftermarket sales are typically done at higher margins and are less cyclical than OEM sales because a certain level of aftermarket maintenance and service work must be performed, even during an industry slowdown. Sales of aftermarket parts and services typically represent approximately 60% of total net sales. As a long time supplier of original equipment, we have an extensive installed base of equipment in operation and growing this installed base further will expand our recurring aftermarket sales. Wabtec provides aftermarket parts and services for its components, and we seek to expand this business with customers who currently perform the work in-house. In this way, we expect to benefit as transit authorities and railroads outsource certain maintenance and overhaul functions.
- **Drive continuous operational improvement.** We are focused on continuous improvement to drive cost competitiveness, effectively deploy capital and accelerate Lean. Lean is a set of principles that emphasize customer focus, elimination of waste, high quality growth and ruthless prioritization of work to improve safety, quality, delivery and cost. Lean is being embedded in our culture and is fundamental to how we execute our strategy. We are using Lean principles to help examine processes and continuously improve them by solving problems at their root cause. Our Lean transformation model focuses on driving process improvements and management systems to maximize the flow of value produced for the customer, remove waste, empower employees and optimize the enterprise. These principles are also rigorously applied to sustainability and safety.

Recent Acquisitions

See Note 3 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report for additional information about our recent acquisitions.

Backlog

Backlog represents the future sales we expect to recognize on firm orders received from customers and approximates the Company's remaining performance obligations at the end of each period. The Company's total backlog was approximately \$22 billion at December 31, 2022. The Company's contracts are subject to standard industry cancellation provisions, including cancellations on short notice or upon completion of designated stages. Generally, if a customer were to cancel a contract we would have an enforceable right to payment for work completed up to the date of cancellation which would include a reasonable profit margin. Substantial scope-of-work adjustments are common. For these and other reasons, completion of the Company's backlog may be delayed or canceled. The railroad industry, in general, has historically been subject to fluctuations due to overall economic conditions and the level of use of alternative modes of transportation.

The roll forward of the Company's backlog of firm customer orders and the expected year of completion are as follows:

<i>In millions</i>	Freight Segment	Transit Segment	Consolidated
Balance at December 31, 2021	\$ 18,502	\$ 3,667	\$ 22,169
New orders	6,294	2,742	9,036
Less: Net sales	(6,012)	(2,350)	(8,362)
Adjustments / foreign exchange, net	(143)	(259)	(402)
Balance at December 31, 2022	<u>\$ 18,641</u>	<u>\$ 3,800</u>	<u>\$ 22,441</u>
Expected Delivery			
2023	\$ 4,901	\$ 1,859	\$ 6,760
Other years	\$ 13,740	\$ 1,941	\$ 15,681

Although the current unfavorable global economic conditions have not resulted in any material cancellations, they have impacted the timing of some orders in backlog as, in certain cases, the delivery of goods and services were pushed out from their original timelines.

Engineering and Development

To execute our strategy to develop new products, we invest in a variety of engineering and development activities. For the fiscal years ended December 31, 2022, 2021 and 2020, we invested \$209 million, \$176 million and \$162 million, respectively, in engineering for product development and improvement activities. Significant incremental engineering expense can be incurred with the execution of original equipment customer contracts. Across the Company we have established multiple Centers of Competence, which have specialized, technical expertise in various disciplines and product areas.

Our engineering and development program includes investments in data analytics, train control and other new technologies, such as battery-electric, liquid natural gas and hydrogen-powered locomotives, with an emphasis on developing products that enhance safety, productivity and efficiency for our customers. For example, we have developed advanced cooling systems that enable lower emissions from diesel engines used in rail and other industrial markets. We periodically conduct specific research projects in conjunction with universities, customers and other industry suppliers.

We use our product development system to develop and monitor new product programs. The system requires the product development team to follow consistent steps throughout the development process, from concept to launch, to ensure the product will meet customer expectations and internal profitability targets.

Intellectual Property

We have approximately 6,000 active patents worldwide and on average file for approximately 300 new patents each year. We also rely on a combination of trade secrets and other intellectual property laws, nondisclosure agreements and other protective measures to establish and protect our proprietary rights in our intellectual property. We actively monitor competitor patent issuance during our product development to reduce litigation risks, and we follow their product development practices to monitor possible patent infringement by them, and to evaluate their strategies and plans.

Trademarks we utilize can be licensed from other companies, acquired as part of mergers or acquisitions, or have been developed through the normal course of business. We have entered into a variety of license agreements as licensor and licensee. We do not believe that any single license agreement is of material importance to our business or any of our business segments as a whole.

Customers

We provide products and services for more than 500 customers worldwide. Our customers include passenger transit authorities and railroads throughout North America, Europe, Asia Pacific, Africa and South America; manufacturers of transportation equipment, such as locomotives, freight cars, passenger transit vehicles and buses and companies that own, lease, and maintain such equipment, as well as customers in the mining, marine, and industrial markets.

Top customers can change from year to year. For the fiscal year ended December 31, 2022, our top five customers accounted for approximately 30% of net sales. No one customer represents 10% or more of consolidated net sales. We believe that we have strong relationships with all of our key customers.

Competition

We hold a leading market share for many of our core product lines globally, although market shares vary by product lines and geographies. We operate in a highly competitive marketplace. Price competition is strong because we have a relatively small number of customers and they are very cost-conscious. In addition to price, competition is based on product performance and technological leadership, quality, reliability of delivery, and customer service and support.

Our principal competitors vary across product lines and geographies. Within North America, New York Air Brake Company, a subsidiary of the German air brake producer Knorr-Bremse AG (“Knorr”) and Amsted Rail Company, Inc., a subsidiary of Amsted Industries Corporation, are our principal overall OEM competitors. Our primary competition for locomotives is Electro-Motive Diesel, a division of Caterpillar. Our primary competition for freight and passenger transit service and repair is mostly from the railroads’ and passenger transit authorities’ in-house operations and Knorr. We believe our key strengths, which include leading market positions in core products, including sustainable technologies, breadth of product offering with a stable mix of OEM and aftermarket business, leading design and engineering capabilities, significant barriers to entry, strategic partnerships and operational excellence, coupled with an experienced management team, enable us to compete effectively in this marketplace. Outside of North America, Knorr is our main competitor, although not in every product line or geography. In addition, our competitors often include smaller, local suppliers in most international markets. Depending on the product line and geography, we can also compete with our customers, such as CRRC Corporation Limited, a China-based manufacturer of rolling stock.

Environmental, Social and Governance

Sustainability

Wabtec is committed to sustainable value creation. Our sustainability strategy is to contribute to a better, more sustainable world through our unique business offerings, leading technologies and sustainable business practices. Our strategy helps us capitalize on market opportunities and reduce safety and environmental risks, while creating value for our customers, employees and other stakeholders. Wabtec utilizes three Strategic Sustainability Principles to execute our sustainability strategy:

- *Innovating with Purpose.* We are committed to developing responsible and sustainable products that minimize the impact on the planet.
- *Driving Responsible Operations.* We are committed to providing safe work environments and products that enable productive and efficient use of resources.
- *Empowering People and Communities.* We are committed to driving an inclusive culture grounded in integrity, committed to the development of and investment in the communities where our teams live and work.

As we develop and refine our sustainability strategy, it is important that we listen to our key stakeholders and focus on areas where Wabtec can enable the most meaningful impact for our customers, communities and the world. In 2021, we conducted a comprehensive Environmental, Social and Governance ("ESG") assessment that included internal and external stakeholder involvement, to identify key ESG issues of focus for the Company. Based on the assessment, we identified topics with the highest relative priority to Wabtec and its external stakeholders that are aligned to our overall sustainability strategy and action plans:

Topic	Definition	Alignment to Wabtec Strategic Sustainability Principles
Greenhouse gas (GHG) emissions	Reducing GHG emissions across Wabtec's value chain and helping Wabtec partners across their value chain reduce GHG emissions. This includes reducing major sources of indirect emissions during the procurement and processing of raw materials, during manufacturing and the operation of our facilities, and during product distribution and end use.	<ul style="list-style-type: none"> • Innovating with Purpose • Driving Responsible Operations
Energy & renewables	Supporting policies and organizational partners that contribute to the renewable energy transition. Contributing to the success of the energy transition by improving the energy efficiency of Wabtec's products and operations. Integrating renewables into Wabtec's products and operations and enabling the adoption of new and emerging renewable energy solutions.	<ul style="list-style-type: none"> • Innovating with Purpose • Driving Responsible Operations
Innovation & technology	Capitalizing on opportunities related to new product advancements and innovations that include the adoption of emerging technology to help address key societal and transportation sector challenges. Developing a resilient business model capable of meeting societal expectations for continuous improvement.	<ul style="list-style-type: none"> • Innovating with Purpose • Empowering People and Communities
Business Ethics & Compliance	Upholding ethics and integrity in every aspect of Wabtec's business by ensuring transparency in all financial practices. Complying with all applicable national and local laws and regulations by promoting practices and policies that encourage reporting instances of non-compliance and by implementing corrective actions that prevent recurrence. Preventing bribery, corruption, and anti-competitive behavior. Promoting ethics and compliance throughout Wabtec's value chain, especially among suppliers.	<ul style="list-style-type: none"> • Driving Responsible Operations • Empowering People and Communities
Data privacy & cybersecurity	Investing in cybersecurity measures and adapting to business risks presented by technology and digitization. Protecting Wabtec's proprietary information and intellectual property. Ensuring the responsible management and use of data, including data from customers, employees, and suppliers. Protecting data collected by Wabtec products.	<ul style="list-style-type: none"> • Innovating with Purpose

During 2021, Wabtec adopted its Green Finance Framework. Following the release of the Green Financing Framework, the Company issued its inaugural "green bond" – a €500 million issuance in the European bond market. The Company intends to utilize green financing instruments as part of its overall capital resources strategy to support the transition to a low-carbon transportation future and meet the sustainable transportation needs of growing cities around the world. Projects supported by green financing will largely target the objective of climate change mitigation by focusing on the efficiency of freight rail systems and public transport, as well as on the provision of energy-efficient customer solution services. Focus areas include:

- Clean transportation
- Eco-efficient and/or circular economy adapted products, production technologies and processes
- Renewable energy

- Pollution prevention and control
- Energy efficiency

During 2022, Wabtec issued the 2022 Green Bond Report. This report describes our Green Bond Program and summarizes the full utilization of the green bond proceeds and allocation of the expenditures to our five focus areas. See "Available Information," below.

ESG Goals

Wabtec is committed to transparency on ESG topics, including the opportunities and challenges we encounter as we work to enhance performance and conduct business in a responsible manner. In 2020, we established ESG goals around innovation, operations, safety, and people. We report our progress on these goals in our annual Sustainability Report. See "Available Information," below.

Wabtec developed an ESG governance framework to provide oversight for our climate action strategy. This structure starts with Wabtec's Board of Directors and its committees who oversee the execution of the Company's ESG strategy as part of their oversight of Wabtec's overall business. In particular, the Board established the Environmental, Social and Governance Subcommittee ("ESG Subcommittee") of the Nominating and Corporate Governance Committee to support and provide oversight of Wabtec's sustainability strategy and ongoing commitment to ESG matters relevant to Wabtec, including complying with all applicable laws and regulations affecting the health and safety of our employees and stakeholders, as well as protection of the environment (including climate) and other public policy matters. To further facilitate the Board's engagement and oversight, ESG was added as a risk category in Wabtec's enterprise risk management process.

Human Capital

At Wabtec, we believe performance drives progress, and are committed to developing sustainable transportation solutions that move and improve the world. We are committed to driving an inclusive culture and integrating our talent and capabilities across the enterprise. As a Company, we believe that protecting the health and safety of our people and the environment is the responsibility of everyone at Wabtec.

Our headquarters are in Pittsburgh, Pennsylvania and we have offices and facilities in over 50 countries around the globe. As of December 31, 2022, we have a global workforce of approximately 27,000 employees, excluding contingent workers.

A portion of our workers are represented by labor unions. For 2023, the United Electrical, Radio and Machine Workers of America (UE), Locals 506 and 618 collective bargaining agreement, covering approximately 1,400 locomotive manufacturing workers in Erie, Pennsylvania, expires on June 9, 2023. Negotiations with UE will begin in 2023. The Company continuously monitors its labor activity.

Diversity and Inclusion

Wabtec is committed to ensuring a diverse and inclusive workplace that respects and seeks the unique talents, experiences and viewpoints of all our employees. Wabtec has a Diversity and Inclusion Council, led by members of Wabtec's executive leadership team, who oversee global diversity and inclusion policies and initiatives. We strive to create an inclusive workplace where employees can be themselves. During 2022, we created the position of Global Diversity & Inclusion Leader to drive progress on our commitment to promoting diversity and fostering an inclusive workplace that attracts, develops and retains diverse talent. Our Board of Directors also plays a critical role in creating an organization that prioritizes, supports, and invests in diversity, inclusion, and equity. Over the last three years, Wabtec has named three diverse members to its Board, with 55% of Wabtec's Board currently considered diverse (gender; race/ethnicity). In 2021, women constituted approximately 17% of our global workforce and approximately 19% of our salaried employees, and people of color constituted approximately 20% of our U.S. salaried workforce and approximately 24% of the total U.S. workforce.

Training and Development

We continually invest in our employees' career growth and provide employees with a wide range of development opportunities, including face-to-face, virtual, social and self-directed learning, mentoring and coaching programs. We have invested in training courses through Wabtec's Learning Management System ("LMS"). In 2021, Wabtec partnered with a third-party to provide diversity and inclusion training. In 2022, Wabtec continued this partnership, refining the program to our company-wide initiatives. Over 5,000 employees have participated in the training, which was coupled with tools and resources for people leaders to help make diversity and inclusion part of a long-term conversation rather than a one-time training.

Our two-year Leadership, Expertise, Advancement and Development ("LEAD") program is the primary path for university graduates into Wabtec. LEAD is a two-year program that offers an immersive learning experience in the fields of engineering, operations, finance and IT along with extensive leadership training designed to build the next generation of leaders. On average, there are 100 participants in the LEAD program that rotate between business units every six months to

work on strategic projects and assignments, gain exposure to senior leadership and build their global professional network. We are focused on strengthening this program to support our global talent pipeline.

Environmental, Health and Safety

At Wabtec, our commitment to environmental, health and safety ("EHS") is at the heart of our core values. The well-being of our employees, the communities where we operate, and our customers and their customers depends on it. To ensure operational accountability for EHS across all levels of Wabtec, we use standard metrics (both lagging and leading indicators) and structured management reviews to track and measure EHS performance across all our operational sites. Each site is responsible for developing a risk reduction plan to drive site or project-level actions related to risk reduction, employee engagement, and continuous EHS improvement. Monthly EHS operating reviews with the Executive Vice President for Global Operations are used to review operational risks at the enterprise-level, develop strategic initiatives, and communicate key performance indicators to senior management. In 2022, we continued our progress toward best-in-class EHS performance by strengthening our focus on compliance assurance, risk reduction, and learning and development. We also continued our efforts to comprehensively deploy and validate effective and consistent adherence with the Environment, Health, and Safety component of the Wabtec Management System (known as the "EHS WMS") to strengthen our management system approach to addressing EHS risks and promote the consistent implementation of best practices across all our global manufacturing and services sites, regardless of how local laws are implemented or enforced. We also improved our focus on proactive risk reduction in our operations by conducting monthly incident review sessions with our site Operations and EHS teams to review common incidents, discuss corrective actions, and share best practices. Through these enhanced incident learning efforts, our Operations and EHS teams are partnering to eliminate and reduce hazards and risks within Wabtec's operations, which is fundamental to improved EHS performance. With zero fatalities and over 65 operational sites with zero recordable injuries, 2022 saw a 10% injury rate reduction across Wabtec's operations as compared with 2021.

In 2022, Wabtec continued its EHS leadership training course aimed at building the toolkits of general managers and plant managers to empower them as critical stewards of our EHS culture. This course instills Wabtec's EHS expectations of its Operational Leaders by providing an awareness of EHS impacts and legal and compliance responsibilities, practical tips for achieving and maintaining EHS excellence, and ideas for cultivating a positive culture and engaging employees to take ownership for EHS. As of 2022, approximately 175 leaders from over 25 countries have attended the training.

Compensation and Benefits

We remain committed to a strong pay-for performance philosophy that aligns individual performance, behaviors and business results with individual rewards. To deliver on that commitment, we utilize market data to benchmark to the external market, and consider factors such as an employee's role and experience, the location of the job and performance when determining compensation.

We provide our employees resources to help them succeed. We offer a wide range of benefits including healthcare and wellness benefits, retirement benefits, an Employee Assistance Program, Employee Resource Groups to build diverse and inclusive communities at Wabtec, and paid time off.

Cybersecurity Framework

Cybersecurity and data protection are important considerations in the design and production of Wabtec products, projects, and services. Information technology is used and relied upon extensively by our business. We collect, process, and retain sensitive and confidential customer information, including proprietary business information, personal data and other information, some of which may be subject to privacy and security laws, regulations and/or customer-imposed data protection controls. To address risks related to cybersecurity and privacy, Wabtec seeks to leverage industry cybersecurity practices that have been developed by organizations such as National Institute of Standards and Technology (NIST) and the International Standardization Organization (ISO) and also engages external independent advisors. Wabtec's Data Protection Plan describes the technical, physical and administrative controls used to protect the confidentiality, integrity, and availability of information provided to and managed by Wabtec. Cybersecurity is addressed and discussed regularly with our Chief Information Officer, the Audit Committee and Board of Directors. Wabtec also maintains SOC 1 Type 2 certification for select digital products, as well as cyber liability insurance coverage. We also regularly evaluate our response readiness, including disaster recovery plans and business continuity considerations in the case of a cyber incident. Finally, Wabtec engages in regular security awareness training to highlight and educate its employees on how to identify and mitigate cybersecurity risks at the individual level.

Regulation

In the course of our operations, we are subject to various regulations and standards of governments and other agencies in the U.S. and around the world. These entities typically govern equipment, safety and interoperability standards for freight rail rolling stock and passenger transit, oversee a wide variety of rules and regulations governing safety and design of equipment, and evaluate certification and qualification requirements for suppliers. New products generally must undergo testing and approval processes that are rigorous and lengthy. As a result of these regulations and requirements, we must usually obtain and

maintain certifications in a variety of jurisdictions and countries. The governing bodies include the FRA and the Association of American Railroads ("AAR") in the U.S., and the International Union of Railways ("UIC") and the European Railway Agencies in Europe. Also, in Europe, the European Committees for Standardization continually draft new European standards which cover, for example, the Reliability, Availability, Maintainability and Safety of railways systems. To guarantee interoperability in Europe, the European Union for Railway Agencies is responsible for defining and implementing Technical Standards of Interoperability, which covers areas such as infrastructure, energy, rolling stock, telematic applications, traffic operation and management subsystems, noise pollution and waste generation, protection against fire and smoke, and system safety.

Most countries and regions in which Wabtec does business have similar rule-making bodies. For example, in China any product or system sold on the Chinese market must have been certified in accordance with national standards. In the local Indian market, most products are covered by regulations patterned after AAR and UIC standards.

Effects of Seasonality

Our business has limited seasonality. Third quarter results may be affected by the timing of services performed under our locomotive maintenance contracts and vacation and scheduled plant shutdowns at several of our major customers. Fourth quarter results may be affected by the timing of spare parts and service orders placed by transit agencies worldwide. Quarterly results can also be affected by the timing of projects in backlog and by project delays.

Environmental Matters

The Company's operations and products are subject to a variety of environmental laws and regulations governing air emissions, discharges into water, the use, handling, storage, and disposal of hazardous substances and waste materials, as well as the remediation of contamination associated with releases of hazardous substances. The Company believes its operations and products currently comply in all material respects with all of the various environmental laws and regulations applicable to our business; however, there can be no assurance that environmental requirements will not change in the future or that we will not incur significant costs to comply with such requirements.

Available Information

We maintain a website at www.wabteccorp.com. Available free of charge on this site are: our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to such reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as well as the annual report to stockholders, our Green Bond Report (www.wabteccorp.com/investor-relations/green-finance-framework), our Sustainability Report (www.wabteccorp.com/sustainability), and other information. The Internet site and the information contained therein or connected thereto are not incorporated by reference into this Form 10-K. The following are also available free of charge on this site and are available in print to any shareholder who requests them: Our Corporate Governance Guidelines, the charters of our Audit, Compensation and Nominating and Corporate Governance Committees, our Code of Conduct, which is applicable to all employees, our Code of Ethics for Senior Officers, which is applicable to our executive officers, our Policies on Related Party Transactions and Conflict Minerals.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The following table provides information on our executive officers as of February 15, 2023.

Officers	Age	Position
Rafael Santana	51	President and Chief Executive Officer
David L. DeNinno	67	Executive Vice President, General Counsel and Secretary
John A. Olin	62	Executive Vice President and Chief Financial Officer
Nicole Theophilus	52	Executive Vice President and Chief Human Resources Officer
Eric Gebhardt	54	Executive Vice President and Chief Technology Officer
Gina Trombley	52	Executive Vice President, Sales & Marketing & Chief Commercial Officer - Americas
Greg Sbrocco	54	Executive Vice President, Global Operations
Michael E. Fetsko	58	President, Freight and Industrial Components
Pascal Schweitzer	46	President, Freight Services
Rogério Mendonca	50	President, Freight Equipment
Nalin Jain	53	President, Digital Electronics
Lillian Leroux	51	President, Transit
John A. Mastalerz	56	Senior Vice President of Finance and Chief Accounting Officer
Kristine Kubacki	48	Vice President, Investor Relations

Rafael Santana was named President and Chief Executive Officer of the Company effective July 1, 2019. Previously, he served as Executive Vice President from February 2019 to July 2019. Mr. Santana was President and Chief Executive Officer of GE Transportation since November 2017. Mr. Santana has held several global leadership positions since joining GE in 2000, including roles in the Transportation, Power and Oil and Gas businesses. Prior to being named President and Chief Executive Officer of GE Transportation, Mr. Santana was President and Chief Executive Officer of GE in Latin America. He also served as President and Chief Executive Officer of GE Oil and Gas Turbomachinery Solutions and had roles as Chief Executive Officer for GE Gas Engines and Chief Executive Officer for GE Energy in Latin America.

David L. DeNinno was named Executive Vice President, General Counsel and Secretary of the Company effective December 2016. Previously, Mr. DeNinno served as Senior Vice President, General Counsel and Secretary since February 2012. Previously, Mr. DeNinno served as a partner at K&L Gates LLP since May 2011 and prior to that with Reed Smith LLP.

John A. Olin was named Executive Vice President and Chief Financial Officer effective October 1, 2021. Prior to joining Wabtec, Mr. Olin served as the Senior Vice President and Chief Financial Officer of Harley-Davidson, where he was instrumental in driving strategic change amidst significant market disruption, including reshaping the company. Prior to Harley-Davidson, Mr. Olin served as Controller of Kraft Foods' Cheese Division, and had 12 years of financial leadership at Kraft, Oscar Mayer Foods, and Miller Brewing Company. Mr. Olin also held positions with financial services and specialized consulting firms including Ernst and Whinney (now Ernst and Young).

Nicole Theophilus was named Executive Vice President & Chief Human Resource Officer in October 2020. Prior to joining Wabtec, Ms. Theophilus served most recently as Chief Human Resource Officer of West Corporation from March 2016 through February 2018. Previously she served as Executive Vice President and Chief Human Resource Officer, Vice President of Human Resources and Vice President and Chief Employment Counsel of ConAgra Corporation, where she was employed from 2006 through 2015. Prior to 2006, Ms. Theophilus was a partner with the law firm Husch Blackwell.

Eric Gebhardt was named Executive Vice President and Chief Technology Officer in October 2020. Prior to joining Wabtec, Mr. Gebhardt served as Managing Director of KCK-US from May 2019 through September 2020. He also served in a variety of roles with General Electric including Chief Technology Officer of GE Power from August 2017 through January 2019, Chief Product Management Officer for GE Energy Connections from February 2017 through August 2017, Chief Platforms and Operations Officer for Current from January 2016 through January 2017, and Chief Technology Officer for GE Oil & Gas from October 2012 through December 2015.

Gina Trombley was named Executive Vice President, Sales & Marketing & Chief Commercial Officer - Americas, effective September 8, 2020. Prior to joining Wabtec, Ms. Trombley served in various executive roles at Bombardier Transportation from 2017 to 2019, most recently as Vice President of Services and previously as Vice President Sales for Bombardier Transport - Americas. Ms. Trombley also held progressive commercial and marketing leadership roles at Parsons and GE Transportation.

Greg Sbrocco was named Executive Vice President, Global Operations in February 2019. Prior to this, Mr. Sbrocco was Global Supply Chain Leader for GE Transportation since September 2014. Mr. Sbrocco had been with GE since 1992 when he joined as an Environmental Engineer for the GE Energy business. During his tenure with GE, Mr. Sbrocco held several leadership roles in GE Energy, GE Oil and Gas, and GE Transportation.

Michael E. Fetsko was named President, Freight and Industrial Components effective January 2017. Previously, Mr. Fetsko served as Vice President and Group Executive from January 2014. He joined Wabtec in July of 2011 as Vice President, Freight Pneumatics. Prior to joining Wabtec, Mr. Fetsko served in various executive management roles with Bombardier Transportation. Prior to Bombardier, Mr. Fetsko served in various management roles with two different environmental engineering firms.

Pascal Schweitzer was named President, Freight Services in February 2019. Previously Mr. Schweitzer was the Vice President—Services of GE Transportation since April 2017. He served as General Manger – Europe – Power Services for GE Power from November 2015 through April 2017 and prior to that several positions with Alstom Power.

Rogério Mendonca was named President, Freight Equipment in February 2021. Previously Mr. Mendonca served as Vice President for Baker Hughes from July 2017. Prior to that he served as President of GE Transportation in Latin America from April 2016 through July 2017 and in several roles leading up to that including Commercial Director and Service Operations General Manager.

Nalin Jain was named President, Digital Electronics business effective December 2020. Mr. Jain had served as President, Global Equipment since May 2019 and previously as President & CEO, International Markets since Aug 2017 for GE Transportation. Prior to that, Mr. Jain had multiple leadership roles of increasing responsibility with GE Aviation and GE Transportation, since September 2005. Mr. Jain served as Director Global Partnerships with Bombardier Inc since July 2002 and prior to that he worked for Saint Gobain.

Lilian Leroux was named President, Transit effective March 2019. Previously he served as Group President—Brakes & Safety from January 2017 to October 2019. Prior to that, Mr. Leroux held various executive management roles with Faiveley Transport, starting in January 2001.

John A. Mastalerz was named Senior Vice President of Finance and Chief Accounting Officer in February 2020. Previously, Mr. Mastalerz served as Senior Vice President, Corporate Controller and Principal Accounting Officer from July 2017 to February 2020 and as Vice President and Corporate Controller from January 2014 to July 2017. Prior to joining Wabtec, Mr. Mastalerz served in various executive management roles with the H.J. Heinz Company from January 2001 to December 2013, most recently as Corporate Controller and Principal Accounting Officer. Prior to 2001, Mr. Mastalerz was a Senior Manager with PricewaterhouseCoopers LLP.

Kristine Kubacki was named Vice President of Investor Relations in April 2019. Previously, Ms. Kubacki was on Wall Street from January 2004 to April 2019 as a sell-side equity analyst covering industrials and served as Executive Director and Senior Analyst for the transportation, logistics and equipment sector at Mizuho Securities USA from June 2017 to April 2019, as well as Director of Equity Research for the global industrial equipment industry at CLSA from July 2016 to March 2017. Ms. Kubacki prior to her role at CLSA spent nearly nine years covering the industrial sector at Avondale Partners, as well as operations management, process design and supply chain management positions at Procter and Gamble.

Item 1A. RISK FACTORS

RISKS RELATED TO OUR BUSINESS AND OPERATIONS

We are dependent upon key customers.

We rely on several key customers who represent a significant portion of our business. While we believe our relationships with our customers are generally good, our top customers could choose to reduce or terminate their relationships with Wabtec. In addition, many of our customers place orders for products on an as-needed basis and operate in cyclical industries. As a result, customer order levels have varied from period to period in the past and may vary significantly in the future. Such customer orders are dependent upon their markets and customers and may be subject to delays and cancellations. Furthermore, the average service life of certain products in our end markets has increased in recent years due to innovations in technologies and manufacturing processes, which has also allowed end users to replace parts less often. As a result of our dependence on our key customers, we could experience a material adverse effect on our business, results of operations and financial condition if we lost any one or more of our key customers or if there is a reduction in their demand for our products.

Our business operates in a highly competitive industry.

We operate in a global, competitive marketplace and face substantial competition from a limited number of established competitors, some of which may have greater financial resources than we do, may have a more extensive low-cost sourcing

strategy and presence in low-cost regions than we do, or may receive significant governmental support. Price competition is strong and, coupled with the existence of a number of cost-conscious customers with significant negotiating power, has historically limited our ability to increase prices. In addition to price, competition is based on product performance and technological leadership, quality, reliability of delivery, and customer service and support. If our competitors invest heavily in innovation and develop products that are more efficient or effective than our products, we may not be able to compete effectively. There can be no assurance that competition in one or more of our markets will not adversely affect us and our results of operations.

A failure to predict and react to customer demand could adversely affect our business.

If we are unable to accurately forecast demand for our existing products or to react appropriately to changes in demand, we may experience delayed product shipments and customer dissatisfaction. If demand increases significantly from current levels, both we and our suppliers may have difficulty meeting such demand, particularly if such demand increases occur rapidly. Alternatively, we may carry excess inventory if demand for our products decreases below projected levels.

Additionally, we have dedicated significant resources to the development, manufacturing and marketing of new products. Decisions to develop and market new transportation products are typically made without firm indications of customer acceptance. Moreover, by their nature, new products may require alteration of existing business methods or threaten to displace existing equipment in which our customers may have a substantial capital investment. There can be no assurance that any new products that we develop will gain widespread acceptance in the marketplace or that such products will be able to compete successfully with other new products or services that may be introduced by competitors. Furthermore, we may incur additional warranty or other costs as new products are tested and used by customers.

Failure to accurately predict and react to customer demand could have a material adverse effect on our business, results of operations and financial condition.

We may fail to respond adequately or in a timely manner to innovative changes in new technology.

In recent years, the global transportation landscape has been characterized by rapid changes in technology, leading to innovative transportation and logistics concepts that could change the way the railway industry does business. There may be additional innovations impacting the railway industry that we cannot yet foresee. Any failure by us to quickly adapt to and adopt new innovations in products and processes desired by our customers may result in a significant loss of demand for our product and service offerings. In addition, advances in technology may require us to increase investments in order to remain competitive, and our customers may not be willing to accept higher prices to cover the cost of these investments.

Our revenues are subject to cyclical variations in the railway and passenger transit markets and changes in government spending.

The railway industry historically has been subject to significant fluctuations due to overall economic conditions, the use of alternate methods of transportation and the levels of government spending on railway projects. In economic downturns, railroads have deferred, and may defer, certain expenditures in order to conserve cash in the short term. For example, the economic slowdown that was caused by COVID-19 impacted the timing of some orders, as customers deferred the delivery of some goods and services to future years. Reductions in freight traffic may reduce demand for our replacement products.

The passenger transit railroad industry is also cyclical and is influenced by a variety of factors. New passenger transit car orders vary from year to year and are influenced by a variety of factors, including major replacement programs, the construction or expansion of transit systems by transit authorities and the quality and cost of alternative modes of transportation. To the extent that future funding for proposed public projects is curtailed or withdrawn altogether as a result of changes in political, economic, fiscal, or other conditions beyond our control, such projects may be delayed or canceled, resulting in a potential loss of business for us, including transit aftermarket and new transit car orders. There can be no assurance that economic conditions will be favorable or that there will not be significant fluctuations adversely affecting the industry as a whole and Wabtec.

Our backlog is not necessarily indicative of the level of our future revenues.

Our backlog represents future production and estimated potential revenue attributable to firm contracts with, or written orders from, our customers for delivery in various periods. Instability in the global economy, negative conditions in the global credit markets, volatility in the industries that our products serve, changes in legislative policy, adverse changes in the financial condition of our customers, adverse changes in the availability of raw materials and supplies, or un-remedied contract breaches could possibly lead to contract termination or cancellations of orders in our backlog or request for deferred deliveries of our backlog orders, each of which could adversely affect our cash flows and results of operations. For example, although the economic slowdown caused by COVID-19 did not result in any material cancellations of the Company's backlog, it did impact the timing of some orders in backlog as, in certain cases, the delivery of goods and services were pushed out from their original timelines.

Equipment failures, interruptions, delays in deliveries or extensive damage to our facilities, supply chains, distribution systems or information technology systems, could adversely affect our business.

All of our facilities, equipment, supply chains, distribution systems and information technology systems are subject to the risk of catastrophic loss due to unanticipated events, such as cyber-attacks, disease outbreak, fires, earthquakes, explosions, floods, tornadoes, hurricanes or weather conditions. An interruption in our manufacturing capabilities, supply chains, distribution systems or information technology systems, whether as a result of such catastrophic loss or any other reason, could reduce, prevent or delay our production and shipment of our product offerings, result in defective products or services, damage customer relationships and our reputation and result in legal exposure and large repair or replacement expenses. This could result in the delay or termination of orders, the loss of future sales and a negative impact to our reputation with our customers.

Third-party insurance coverage that we maintain with respect to such matters will vary from time to time in both type and amount depending on cost, availability and our decisions regarding risk retention, and may be unavailable or insufficient to protect us against losses. Any of these risks coming to fruition could materially adversely affect our business, results of operations and financial condition.

Disruption of our supply chain could have an adverse impact on our business, financial condition, and results of operations.

Our ability to make, move, and sell our products is critical to our success. Damage or disruption to our supply chain, including third-party manufacturing or transportation and distribution capabilities, could impair our ability to manufacture or sell our products. Failure to take adequate steps to mitigate the likelihood or potential impact of disruptions, or to effectively manage such events if they occur, particularly when a product is sourced from a single supplier or location, could adversely affect our business or financial results. Due to the ongoing impacts and uncertainty of continued impacts of the COVID-19 pandemic and the global government actions to contain it, some of our supply chains, particularly in China, India, the U.S., and Europe, have been, and continue to be, impacted. Supply chain disruptions and labor availability have caused component and chip shortages resulting in an adverse effect on the timing of the Company's revenue generation. Additionally, broad-based inflation, escalation of metals and commodities costs, transportation and logistics costs and labor costs have all resulted from the COVID-19 pandemic. There can be no assurance that there will not be further, or deeper, supply chain disruptions, or that the steps we are taking to mitigate such disruptions will be effective or achieve their desired results in a timely fashion.

In addition, disputes with significant suppliers, including disputes regarding pricing or performance, could adversely affect our ability to supply products to our customers and could materially and adversely affect our product sales, financial condition, and results of operations.

We intend to pursue acquisitions, joint ventures and alliances that involve a number of inherent risks, any of which may cause us not to realize anticipated benefits.

One aspect of our business strategy is to selectively pursue acquisitions, joint ventures and alliances that we believe will improve our market position and provide opportunities to realize operating synergies. These transactions involve inherent risks and uncertainties, any one of which could have a material adverse effect on our business, results of operations and financial condition including:

- difficulties in achieving identified financial and operating synergies, including the integration of operations, services and products;
- diversion of management's attention from other business concerns;
- the assumption of unknown liabilities; and
- unanticipated changes in the market conditions, business and economic factors affecting such an acquisition, joint venture or alliance.

We cannot assure that we will be able to consummate any future acquisitions, joint ventures or other business combinations. If we are unable to identify or consummate suitable acquisitions, joint ventures or alliances, we may be unable to fully implement our business strategy, and our business and results of operations may be adversely affected as a result. In addition, our ability to engage in such strategic transactions will be dependent on our ability to raise substantial capital, and we may not be able to raise the funds necessary to implement this strategy on terms satisfactory to us, if at all.

The integration of our recently completed acquisitions may not result in anticipated improvements in market position or the realization of anticipated operating synergies or may take longer to realize than expected.

Although we believe that our recent acquisitions will improve our market position and realize positive operating results, including operating synergies, operating expense reductions and overhead cost savings, we cannot be assured that these improvements will be obtained or the timing of such improvements. The management and acquisition of businesses involves substantial risks, any of which may result in a material adverse effect on our business and results of operations, including:

- the uncertainty that an acquired business will achieve anticipated operating results;
- significant expenses to integrate;
- diversion of management's attention from business operations to integration matters;
- departure of key personnel from the acquired business;
- effectively managing entrepreneurial spirit and decision-making;
- integration of different information systems;
- unanticipated costs and exposure to unforeseen liabilities; and
- impairment of assets.

The effects of COVID-19 and other potential future public health crises, epidemics, pandemics or similar events on our business, operating results and cash flows are uncertain.

We face a wide variety of risks related to health epidemics, pandemics and similar outbreaks, including the global outbreak of COVID-19. Since first reported in late 2019, the COVID-19 pandemic has dramatically impacted the global health and economic environment, including millions of confirmed cases, business slowdowns or shutdowns, government challenges and market volatility of an unprecedented nature. Although we have, to date, managed to continue our operations, we cannot predict the future course of events nor can we assure that this global pandemic, including its economic impact, will not have a material adverse impact on our business, financial position, results of operations and/or cash flows. The extent of the impact of the COVID-19 pandemic on our operational and financial performance remains uncertain and will depend on future pandemic related developments, including the duration of the pandemic, any potential subsequent waves of COVID-19 and new strains of the virus, the effectiveness, distribution and acceptance of COVID-19 vaccines, and related government actions to prevent and manage disease spread, all of which are uncertain and cannot be predicted. Our operations may be further impacted by the COVID-19 pandemic if significant portions of our workforce are unable to work effectively, including because of illness, quarantines, travel restrictions or absenteeism; steps the company has taken to protect health and well-being; government actions; facility closures; work slowdowns or stoppages; inadequate supplies or resources (such as reliable personal protective equipment, testing and vaccines); or other circumstances related to COVID-19. Governments around the world have taken steps to mitigate some of the more severe anticipated economic effects, but there can be no assurance that such steps will be effective or achieve their desired results in a timely fashion.

The COVID-19 pandemic has resulted in operational and supply chain disruptions for us and our customers and may further adversely affect operations and the operations of our customers and suppliers. Accordingly, COVID-19 had a materially adverse impact on our operations and business results for the years ended December 31, 2021, and 2020. Supply chain disruptions and shortages in labor availability have caused component and chip shortages, which have resulted in adverse effects on the timing of our revenue generation. Additionally, broad-based inflation, escalation of metals and commodities costs, transportation and logistics costs and labor costs have all resulted from the COVID-19 pandemic and have adversely impacted our business. The spread of COVID-19, and the emergence of new strains of the virus, have caused us to modify our business practices and to implement significant proactive measures to protect the health and safety of employees, and we may take further actions as may be required by government authorities or as we determine are appropriate under the circumstances. There is no certainty that such measures will be sufficient to mitigate the continued risks posed by the pandemic.

The COVID-19 pandemic and related volatility in financial markets and deterioration of national and global economic conditions could affect our business and operations in a variety of ways. For example, we have experienced and could experience further operational disruptions and financial losses as a result of the following:

- a decrease in demand for our products as a result of COVID-19 and cost control measures implemented by our customers;
- delays in orders or delivery of orders, the occurrence of which negatively impacts our cash conversion cycle and ability to convert our backlog into cash;
- inability to collect full or partial payments from customers due to deterioration in customer liquidity, including customer bankruptcies;
- a shutdown of one or multiple of our manufacturing facilities due to government restrictions or illness in connection with COVID-19.

The continued spread of COVID-19 has also led to disruption and volatility in the global capital markets, which depending on future developments may make it more costly or difficult for us to obtain debt or equity financing, including to refinance our existing debt, or to identify or execute on investment opportunities, in each case on terms and within time periods

acceptable to us. We are also monitoring the impacts of COVID-19 on the fair value of our assets. While we do not currently anticipate any material impairments on our assets as a result of COVID-19, future changes in expectations for sales, earnings and cash flows related to intangible assets and goodwill below our current projections could cause these assets to be impaired.

We continue to work with our stakeholders (including customers, employees, suppliers and local communities) in an effort to address responsibly this global pandemic. We continue to monitor the situation, to assess further possible implications to our employees, business, supply chain and customers, and to take certain actions in an effort to mitigate various adverse consequences. However, uncertainty around general global economic and market conditions, exacerbated by the COVID-19 pandemic, will have an impact on our sales and operations in 2023 and beyond.

We expect that the longer the COVID-19 pandemic, including its economic disruption, continues, the greater the adverse impact on our business operations, financial performance and results of operations could be. Given the tremendous uncertainties and variables, we cannot at this time predict the impact of the global COVID-19 pandemic, or any future pandemic, but any one could have a material adverse impact on our business, financial position, results of operations and/or cash flows.

RISKS RELATED TO INTERNATIONAL OPERATIONS

A significant portion of our sales may be derived from our international operations, which exposes us to certain risks inherent in doing business on an international level.

For the fiscal year ended December 31, 2022, approximately 55% of our consolidated net sales were to customers outside of the United States. We intend to continue to expand our international operations, including in emerging markets, in the future. Our global headquarters for the Transit group is located in France, and we conduct other international operations through a variety of wholly and majority-owned subsidiaries and joint ventures, including in Australia, Austria, Brazil, Canada, China, Czech Republic, France, Germany, India, Italy, Kazakhstan/Commonwealth of Independent States ("CIS"), Macedonia, Mexico, the Netherlands, Poland, Spain, South Africa, Turkey, and the United Kingdom. As a result, we are subject to various risks, any one of which could have a material adverse effect on those operations and on our business as a whole, including:

- lack of complete operating control;
- lack of local business experience;
- currency exchange fluctuations and devaluations;
- restrictions on currency conversion or the transfer of funds or limitations on our ability to repatriate income or capital;
- the complexities of operating within multiple tax jurisdictions;
- foreign trade restrictions and exchange controls;
- adverse impacts of international trade policies, such as import quotas, capital controls or tariffs;
- difficulty enforcing agreements and intellectual property rights;
- the challenges of complying with complex and changing laws, regulations, and policies of foreign governments;
- the difficulties involved in staffing and managing widespread operations;
- the potential for nationalization of enterprises;
- economic, political and social instability;
- potential reputational harm associated with doing business in certain countries;
- possible local catastrophes, such as natural disasters and epidemics; and
- possible terrorist attacks, conflicts and wars, including those against American interests.

Our exposure to the risks associated with international operations may intensify if our international operations expand in the future.

We may incur increased costs or margin degradation due to fluctuations in interest rates and foreign currency exchange rates.

In the ordinary course of business, we are exposed to increases in interest rates that may adversely affect funding costs associated with variable-rate debt and changes in foreign currency exchange rates. We are subject to currency exchange rate risk to the extent that our costs may be denominated in currencies other than those in which we earn and report revenues and vice versa. In addition, a decrease in the value of any of these currencies relative to the U.S. dollar could reduce our profits from non-U.S. operations and the translated value of the net assets of our non-U.S. operations when reported in U.S. dollars in our consolidated financial statements. We may seek to minimize these risks through the use of interest rate swap contracts and

currency hedging agreements. There can be no assurance that any of these measures will be effective. Material changes in interest or exchange rates could result in material losses to us.

We have substantial operations located in emerging markets, and are subject to regulatory, economic, social and political uncertainties in such markets.

We have substantial operations located in emerging markets, such as Brazil, India, and Kazakhstan. Operations in such emerging markets are inherently risky due to a number of regulatory, economic, social and political uncertainties. These risks include economies that may be dependent on only a few products and are therefore subject to significant fluctuations, weak legal systems which may affect our ability to enforce contractual rights, possible exchange controls, unstable governments, nationalization or privatization actions or other government actions affecting the flow of goods and currency.

Significant changes in economic and regulatory policy in emerging countries as well as social or political uncertainties could significantly harm business and economic conditions in these markets generally and could disproportionately impact the rail industry, which could adversely affect our business and prospects in these markets.

In addition, physical and financial infrastructure may be less developed in some emerging countries than that of many developed nations. Any disruptions with respect to banking and financial infrastructure, communication systems or any public facility, including transportation infrastructure, could disrupt our normal business activity. Such disruptions could interrupt our business operations and significantly harm our results of operations, financial condition and cash flows.

The ongoing conflict between Russia and Ukraine may adversely affect our business and results of operations.

Given the nature of our business and our global operations, political, economic, and other conditions in foreign countries and regions, including geopolitical risks such as those arising from the current conflict between Russia and Ukraine, has and may continue to adversely affect our business and results of operations. The broader consequences of this conflict, which may include further sanctions, embargoes, regional instability, and geopolitical shifts; disruptions to transportation and distribution routes, or strategic decisions to alter certain routes; potential retaliatory action by the Russian government against companies, including us, including nationalization of foreign businesses and/or assets in Russia; increased tensions between the United States and countries in which we operate; and the extent of the conflict's effect on our business and results of operations as well as the global economy, cannot be predicted.

Additionally, Wabtec has operations and a strategic joint venture in Kazakhstan that have continued operating but have incurred supply, distribution and currency impacts as an indirect result from the Russian invasion of Ukraine. To date, the operations in Kazakhstan have not been significantly impacted by the ongoing conflict outside of the overall unfavorable impact to economic conditions; however, the future impact to these operations cannot be predicted.

To the extent the current conflict between Russia and Ukraine adversely affects our business, particularly in Russia and Kazakhstan, it may also have the effect of heightening many other risks disclosed in this Annual Report, any of which could materially and adversely affect our business and results of operations. Such risks include, but are not limited to, adverse effects on macroeconomic conditions, including inflation and business spending; disruptions to our global technology infrastructure, including through cyberattack, ransom attack, or cyber-intrusion; adverse changes in international trade policies and relations; our ability to maintain or increase our prices, our ability to implement and execute our business strategy, disruptions in global supply chains, our exposure to foreign currency fluctuations, and constraints, volatility, or disruption in the capital markets, difficulty staffing and managing impacted operations, and the recoverability of assets in the region.

RISKS RELATED TO MACRO-ECONOMIC CONDITIONS AND POLICIES

Prolonged unfavorable economic and market conditions could adversely affect our business.

Unfavorable general economic and market conditions in the United States and internationally, particularly in our key end markets, could have a negative impact on our sales and operations. To the extent that these factors result in continued instability of capital markets, shortages of raw materials or component parts, longer sales cycles, deferral or delay of customer orders or an inability to market our products effectively, our business and results of operations could be materially adversely affected.

We may be exposed to raw material shortages, supply shortages, fluctuations in raw material, energy and commodity prices, and inflationary pressure.

We purchase energy, steel, aluminum, copper, rubber and rubber-based materials, chemicals, polymers and other key manufacturing inputs from outside sources, and traditionally have not had long-term pricing contracts with our pure raw material suppliers. The costs of these raw materials have been volatile historically and are influenced by factors that are outside our control, including inflationary pressure. If we are unable to pass increases in the costs of our raw materials on to our customers, experience a lag in our ability to pass increases to our customers, or operational efficiencies are not achieved, our operating margins and results of operations may be materially adversely affected.

Our businesses compete globally for key production inputs. In addition, we rely upon third-party suppliers, including certain single-sourced suppliers, for various components for our products. In the event of a shortage or discontinuation of certain raw materials or key inputs, we may experience challenges sourcing certain of our components to meet our production requirements and may not be able to arrange for alternative sources of certain raw materials or key inputs. Any such shortage may materially adversely affect our competitive position versus companies that are able to better or more cheaply source such raw materials or key inputs.

Changes to international trade policies, including tariffs and foreign trade restrictions, could adversely affect our business.

As a global transportation company, we generate export sales from our U.S. operations and also derive international sales through our foreign subsidiaries, licensees and joint ventures. We also do business with industry suppliers located in various international markets. A protectionist trade environment in either the United States or those foreign countries in which we do business, such as a change in the current tariff structures, export compliance or other trade policies, may adversely affect our business. In particular, such policies may impact or delay our customers' investments in our products, reduce the competitiveness of our products in certain markets, and inhibit our ability to cost-effectively purchase necessary inputs from certain suppliers. In addition, to the extent developments in international trade relations result in reduced global trade or slower growth in global trade, it is likely that this would result in reductions in investment in freight and transit rail.

International trade policies are affected by a diverse array of factors, including global and national economic and political conditions, which make it impossible for us to predict future developments regarding tariffs and other trade restrictions. Although we actively monitor developments in international trade and proactively engage in efforts to mitigate the effect of trade policies, there can be no guarantee that these efforts will be successful.

LEGAL AND REGULATORY RISKS

We are subject to a variety of laws and regulations, including anti-corruption laws, in various jurisdictions.

We are subject to various laws, rules and regulations administered by authorities in jurisdictions in which we do business, such as the anti-corruption laws of the U.S. Foreign Corrupt Practices Act, the French Law n° 2016-1691 (Sapin II) and the U.K. Bribery Act, relating to our business and our employees. We are also subject to other laws and regulations governing our international operations, including regulations administered by the U.S. Department of Commerce's Bureau of Industry and Security, the U.S. Department of Treasury's Office of Foreign Assets Control, and various non-U.S. government entities, including applicable export control regulations, economic sanctions on countries and persons, customs requirements, currency exchange regulations, and transfer pricing regulations. Despite our policies, procedures and compliance programs, our internal controls and compliance systems may not be able to protect us from prohibited acts willfully committed by our employees, agents or business partners that would violate such applicable laws and regulations. Any such improper acts could damage our reputation, subject us to civil or criminal judgments, fines or penalties, and could otherwise disrupt our business, and as a result, could materially adversely impact our business, results of operations and financial condition.

In addition, our manufacturing operations and products are subject to safety, operations, maintenance and mechanical standards, rules and regulations enforced by various federal and state agencies and industry organizations both domestically and internationally. Our business may be adversely impacted by new rules and regulations or changes to existing rules or regulations, which could require additional maintenance or substantial modification or refurbishment of certain of our products or could make such products obsolete or require them to be phased out prior to their useful lives. We are unable to predict what impact these or other regulatory changes may have, if any, on our business or the industry as a whole. We cannot assure that costs incurred to comply with any new standards or regulations will not be material to our business, results of operations and financial condition.

We are subject to a variety of environmental laws and regulations.

We are subject to a variety of increasingly stringent environmental laws and regulations governing air emissions, discharges into water, chemical substances in products, the use, handling, storage, and disposal of hazardous substances or waste materials, as well as the remediation of contamination associated with releases of hazardous substances. We have incurred, and will continue to incur, both operating and capital costs to comply with environmental laws and regulations, including costs associated with the clean-up and investigation of some of our current and former properties and offsite disposal locations. We believe our operations currently comply in all material respects with all of the various environmental laws and regulations applicable to our business; however, there can be no assurance that environmental requirements will not change in the future or that we will not incur significant costs to comply with such requirements. Failure to comply with environmental laws and regulations could have significant consequences on our business and results of operations, including the imposition of substantial fines and sanctions for violations, injunctive relief (including requirements that we limit or cease operations at affected facilities), and reputational risk.

In addition, certain of our products are subject to extensive, and increasingly stringent, statutory and regulatory requirements governing, *e.g.*, emissions and noise, including standards imposed by the U.S. Environmental Protection Agency,

the European Union and other regulatory agencies around the world. We have made, and will continue to make, significant capital and research expenditures relating to compliance with these standards. 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 these standards-particularly in emerging markets-are unpredictable and subject to change.

Future climate change regulation could result in increased operating costs, affect the demand for our products or affect the ability of our critical suppliers to meet our needs.

Management believes it is reasonably likely that the scientific and political attention to issues concerning the existence and extent of climate change, and the role of human activity in it, will continue, with the potential for further regulation that affects the company's operations and products. The potential challenges posed by evolving climate change policy and prospective legislation are heavily dependent on the nature and degree of such legislation and the extent to which it applies to our industry. Although uncertain, these developments could increase costs or reduce the demand for the products the company sells. The Company's manufacturing and service operations typically result in emissions of greenhouse gases. Likewise, emissions arise from midstream and downstream operations, including operations of our locomotives and other products. Finally, although beyond the control of the company, the use of fuels and related products by operators also results in greenhouse gas emissions that may be regulated. International agreements, domestic legislation and regulatory measures to limit greenhouse gas emissions are currently in various phases of discussion or implementation. While we are carefully monitoring developments, at this time, we cannot predict the ultimate impact of climate change and climate change legislation on our operations. Any laws or regulations that may be adopted to restrict or reduce emissions of greenhouse gas could require us to incur increased operating costs and could have an adverse effect on demand for our products. In addition, the price and availability of certain of the raw materials that we use could vary in the future as a result of environmental laws and regulations affecting our suppliers. An increase in the price of our raw materials or a decline in their availability could adversely affect our operating margins or result in reduced demand for our products.

The occurrence of litigation in which we are, or could be, named as a defendant is unpredictable.

From time to time, we are subject, directly or through our subsidiaries, to litigation or other commercial disputes and other legal and regulatory proceedings with respect to our business, customers, suppliers, creditors, stockholders, product liability (including, asbestos claims), intellectual property infringement, competition and antitrust claims, warranty claims or environmental-related matters.

Due to the inherent uncertainties of any litigation, commercial disputes or other legal or regulatory proceedings, we cannot accurately predict their ultimate outcome, including the outcome of any related appeals. We may incur significant expense to defend or otherwise address current or future claims. Although we maintain insurance policies for certain risks, we cannot make assurances that this insurance will be adequate to protect us from all material judgments and expenses related to potential future claims or that these levels of insurance will be available in the future at economical prices or at all. In addition, although in some cases we may be indemnified by non-affiliated entities that retain liabilities in connection with specific matters, there can be no assurance that these indemnitors will remain financially viable and capable of satisfying their obligations.

Any litigation, even a claim without merit, could result in substantial costs and diversion of resources and could have a material adverse effect on our business and results of operations.

Our manufacturer's warranties or product liability may expose us to potentially significant claims.

We warrant the workmanship and materials of many of our products. Accordingly, we are subject to a risk of product liability or warranty claims in the event that the failure of any of our products results in personal injury or death or does not conform to our customers' specifications. In addition, in recent years, we have introduced a number of new products for which we do not have a history of warranty experience. Although we currently maintain liability insurance coverage, we cannot assure that product liability claims, if made, would not exceed our insurance coverage limits or that insurance will continue to be available on commercially acceptable terms, if at all. The possibility exists for these types of warranty claims to result in costly product recalls, significant repair costs and damage to our reputation.

Expectations relating to environmental, social and governance considerations expose us to potential liabilities, increased costs, reputational harm, and other adverse effects on our business.

Many governments, regulators, investors, employees, customers and other stakeholders are increasingly focused on environmental, social and governance considerations relating to businesses, including climate action and greenhouse gas emissions, supply chain due diligence, human capital management, and diversity, equity and inclusion. We make statements about our ESG goals and initiatives through information provided in reports that we file or furnish with the Securities and

Exchange Commission, on our website, in press statements, and in other communications, including through our Sustainability Reports. Our response to these ESG considerations and the implementation of these goals and initiatives involves risks and uncertainties, including those described under “Forward-Looking Statements,” and such response may be impacted by factors that are outside our control. In addition, some stakeholders may disagree with our goals and initiatives and the focus of stakeholders may change and evolve over time. Stakeholders also may have different views on the relative prioritization of the Company's ESG focus, including differing views of regulators in various jurisdictions in which we operate. Any failure, or perceived failure, by us to achieve our goals, further our initiatives, adhere to our public statements, comply with federal, state or international environmental, social and governance laws and regulations, or meet evolving and varied stakeholder expectations and standards could result in legal and regulatory proceedings against us and materially adversely affect our business, reputation, results of operations, financial condition, and stock price.

RISKS RELATED TO DATA SECURITY AND INTELLECTUAL PROPERTY

If we are not able to protect our intellectual property and other proprietary rights, we may be adversely affected.

Our success can be impacted by our ability to protect our intellectual property and other proprietary rights. We rely primarily on patents, trademarks, copyrights, trade secrets and unfair competition laws, as well as license agreements and other contractual provisions, to protect our intellectual property and other proprietary rights. However, filing, prosecuting and defending patents on our products in all countries and jurisdictions throughout the world would be prohibitively expensive. Moreover, existing U.S. legal standards relating to the validity, enforceability and scope of protection of intellectual property rights offer only limited protection, may not provide us with any competitive advantages and may be challenged by third parties. The laws of countries other than the United States may be even less protective of intellectual property rights. As a result, a significant portion of our technology is not patented, and we may be unable or may not seek to obtain patent protection for this technology. Further, although we routinely conduct anti-counterfeiting activities in multiple jurisdictions, we have encountered counterfeit reproductions of our products or products that otherwise infringe on our intellectual property rights. Counterfeit components of low quality may negatively impact our brand value. Accordingly, despite our efforts, we may be unable to prevent third parties from infringing upon, counterfeiting or misappropriating our intellectual property or otherwise gaining access to our technology. If we fail to protect our intellectual property and other proprietary rights, then our business, results of operations and financial condition could be negatively impacted.

In addition, we operate in industries in which there are many third-party owners of intellectual property rights. Owners of intellectual property that we need to conduct our business as it evolves may be unwilling to license such intellectual property rights to us on terms we consider reasonable. Third party intellectual property owners may assert infringement claims against us based on their intellectual property portfolios. If we are sued for intellectual property infringement, we may incur significant expenses investigating and defending such claims, even if we prevail.

We face cyber-security and data protection risks relating to cyber-attacks and information technology failures that could cause loss of confidential information and other business disruptions.

We rely extensively on the security, stability, and availability of technology systems in our business. We also collect, process, and retain sensitive and confidential customer information, including proprietary business information, personal data and other information that may be subject to privacy and security laws, regulations and/or customer-imposed data protection controls. Our business may be adversely impacted by unintentional technology disruptions, including those resulting from programming errors, employee operational errors, software defects, and product vulnerabilities.

We also provide technological products integral to train operation. Accordingly, our business may be adversely impacted by disruptions to our own or third-party information technology infrastructure, which could result from cybersecurity incidents, including, but not limited to, unauthorized access to the Company's information technology systems, data access or acquisition, and/or encryption of the Company's environment. For instance, during 2021, one of our vendors publicly disclosed vulnerabilities in its operating system that we use for certain Wabtec products. Additionally, during 2022, the Company detected a cyber-security incident which impacted the Company's network. The Company promptly activated incident response protocols and completed a thorough investigation. The incident did not have a material impact on our business, operations or financial results. A successful exploitation of our own or our vendors' information technology infrastructure could result in service interruptions, safety hazards, misappropriation of confidential information, process failures, security breaches or other operational difficulties. Such an event could result in decreased revenues and increased capital, insurance or operating costs, including the increased costs of security to protect the Company's infrastructure, among other results. Insurance maintained by the Company to protect against loss of business and other related consequences resulting from cyber incidents may not be sufficient to cover all damages. A disruption or compromise of the Company's technology systems, even for short periods of time, could have a material adverse effect.

RISKS RELATED TO HUMAN CAPITAL

Labor shortages and labor disputes may have a material adverse effect on our operations and profitability.

We depend on skilled labor in our manufacturing and other businesses. Due to the competitive nature of the labor markets in which we operate, we may not be able to retain, recruit and train the personnel we require, particularly when the economy expands, production rates are high or competition for such skilled labor increases.

We collectively bargain with labor unions at some of our operations throughout the world. Failure to reach an agreement could result in strikes or other labor protests which could disrupt our operations. Furthermore, non-union employees in certain countries have the right to strike. If we were to experience a strike or work stoppage, it would be difficult for us to find a sufficient number of employees with the necessary skills to replace these employees. We cannot assure that we will reach any such agreement or that we will not encounter strikes or other types of conflicts with the labor unions of our personnel.

Any such labor shortages or labor disputes could have an adverse effect on our business, results of operations and financial condition, could cause us to lose revenues and customers and might have permanent effects on our business.

We rely on our management team and other key personnel.

We depend on the skills, working relationships, and continued services of key personnel, including our experienced management team, and other key employees. In addition, our ability to achieve our operating 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, and we may lose key personnel or fail to attract, train, and retain other talented personnel. Any such loss or failure could adversely affect our product sales, financial condition, and operating results. If we lose key personnel, because they terminate their employment or retire, or as a result of illness, disability or death, or if an insufficient number of employees is retained to maintain effective operations, our business activities may be adversely affected and our management team's attention may be diverted. In addition, we may not be able to locate suitable replacements for any key personnel that we lose, or we may not be able to hire potential replacements on reasonable terms, all of which could adversely affect our product sales, financial condition, and operating results.

RISKS RELATED TO OUR INDEBTEDNESS

Our indebtedness could adversely affect our financial health.

At December 31, 2022, we had total debt of \$4.0 billion, primarily related to Senior Notes. Being indebted could have important consequences to us. For example, our indebtedness could:

- increase our vulnerability to general adverse economic and industry conditions;
- require us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, acquisitions and other general corporate purposes;
- limit our flexibility in planning for, or reacting to, changes in our business and the industries in which we operate;
- place us at a disadvantage compared to competitors that have less debt; and
- limit our ability to borrow additional funds.

Moreover, our Restated Credit Agreement and the indentures governing our Senior Notes permit us to incur substantial additional indebtedness, which may further contribute to, or exacerbate the impact of, the foregoing impacts.

The indentures for our outstanding Senior Notes and our Restated Credit Agreement contain various covenants that limit our management's discretion in the operation of our businesses.

Our Restated Credit Agreement subjects us to customary (i) affirmative covenants, including requirements with respect to certain reporting obligations on us and our subsidiaries, and (ii) negative covenants, including limitations on: indebtedness; liens; restricted payments; fundamental changes (including certain changes in control); business activities; transactions with affiliates; restrictive agreements; changes in fiscal year; and use of proceeds. In addition, we are required to maintain (i) a ratio of EBITDA to interest expense of at least 3.00 to 1.00 over each period of four consecutive fiscal quarters ending on the last day of a fiscal quarter and (ii) a Leverage Ratio, calculated as of the last day of a fiscal quarter for a period of four consecutive fiscal quarters, of 3.5 or less. All terms are as defined in the Restated Credit Agreement.

The indentures under which our Senior Notes were issued contain covenants and restrictions which limit, subject to certain exceptions, certain sale and leaseback transactions with respect to principal properties, the incurrence of secured debt without equally and ratably securing the senior notes and certain merger and consolidation transactions. In addition, the indentures require that we offer to repurchase our outstanding Senior Notes upon the occurrence of certain change of control triggering events.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES**Facilities**

The following table provides certain summary information about the principal facilities owned or leased by the Company as of December 31, 2022. The Company believes that its facilities and equipment are generally in good condition and that, together with scheduled capital improvements, they are adequate for its present and immediately projected needs. Leases on the facilities are mainly long-term and generally include options to renew.

Location	Primary Use	Segment	Own/Lease	Approximate Square Feet
Domestic				
Erie, PA	Manufacturing/Warehouse/Office	Freight	Own	3,800,000
Grove City, PA	Manufacturing/Warehouse	Freight	Own	486,000
Salem, VA	Manufacturing	Freight	Own	320,000
Justin, Texas	Manufacturing/Warehouse	Freight	Own	305,000
Fort Worth, Texas	Manufacturing/Warehouse	Freight	Own	304,000
Houston, Texas	Manufacturing/Service	Freight	Own	280,000
Hanover Park, Illinois	Manufacturing	Freight	Lease	250,000
Pittsburgh, PA	Office	Global HQ	Lease	84,000
International				
Shenyang, China	Manufacturing/Warehouse/Office	Transit	Own	336,000
Doncaster, UK	Manufacturing	Transit	Own	330,000
Changzhou, China	Manufacturing	Transit	Own	316,000
Northampton, UK	Manufacturing	Freight	Lease	300,000
Shenyang City, China	Manufacturing	Transit	Lease	291,000
Piovasco, Italy	Manufacturing	Transit	Own	301,000
Burton-on-Trent, UK	Manufacturing/Office	Transit	Lease	260,000
Bangalore, India	Manufacturing	Freight/Transit	Lease	168,000

Item 3. LEGAL PROCEEDINGS

Information with respect to legal proceedings is included in Note 18 of “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this report and incorporated by reference herein.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

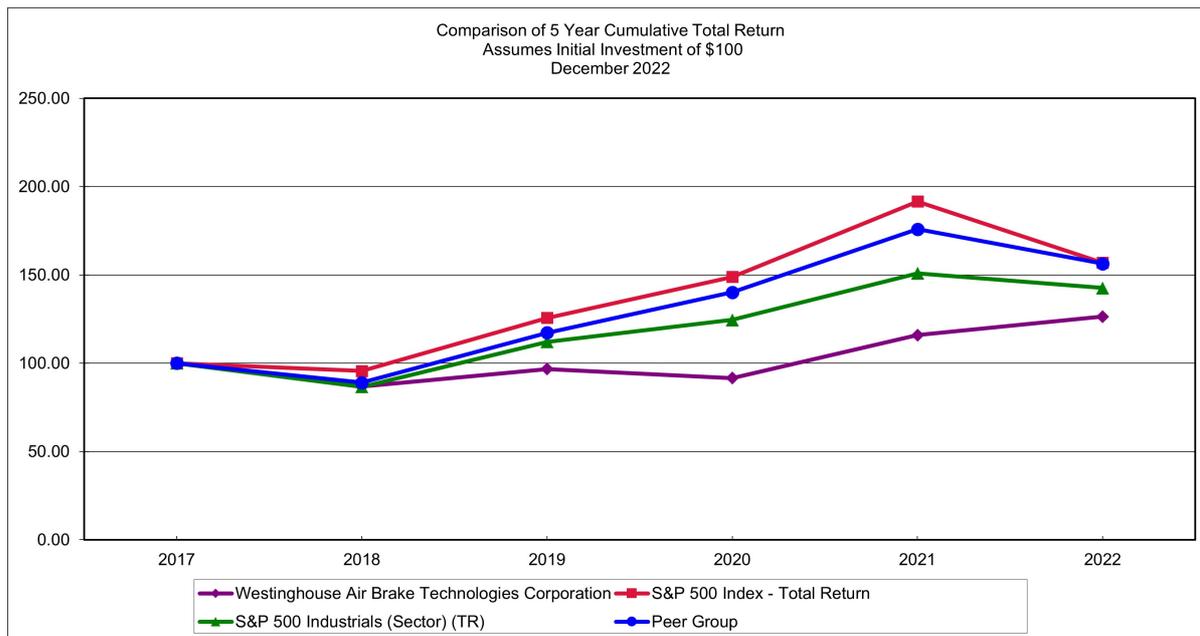
PART II

Item 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The Common Stock of the Company is listed on the New York Stock Exchange under the symbol “WAB.” As of February 10, 2023, there were 180,352,300 shares of Common Stock outstanding held by approximately 103,420 holders of record.

The Company has historically paid quarterly dividends to shareholders, subject to quarterly approval by our Board of Directors, currently at a rate of approximately \$123 million annually. The declaration and payment of future dividends are at the discretion of the Board of Directors.

The following performance graph and related information shall not be deemed “soliciting material” or to be “filed” with the Securities and Exchange Commission, nor shall such information be incorporated by reference to any future filings under the Securities Act of 1933 and the Securities Exchange Act of 1934, each as amended, except to the extent that Wabtec specifically incorporates it by reference into such filing. The graph below compares the total stockholder return through December 31, 2022, of Wabtec’s common stock to (i) the S&P 500, (ii) the S&P 500 Industrials and, (iii) our peer group of manufacturing companies which consists of the following publicly traded companies: AGCO, AMETEK, Arconic, Borg Warner, CSX, Dover, Emerson Electric, Fortive, Greenbrier Companies, Illinois Tool Works, Ingersoll-Rand, Norfolk Southern, Oshkosh, Parker-Hannifin, Rockwell Automation, Terex, Textron, Trinity Industries, and Xylem.



Issuer Purchases of Common Stock

Month	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs (1)	Maximum Dollar Value of Shares That May Yet Be Purchased Under the Programs (1) <i>In millions</i>
October 2022	—	\$ —	—	\$ —
November 2022	578,667	\$ 95.32	578,667	\$ —
December 2022	181,568	\$ 100.18	181,568	\$ —
Total quarter ended December 31, 2022	760,235	\$ 96.48	760,235	\$ —

- (1) As of December 31, 2022, approximately \$322 million was remaining under the stock repurchase plan. On February 14, 2023, the Board of Directors reauthorized its stock repurchase program to refresh the amount available for stock repurchases to \$750 million of the Company's outstanding shares. This new stock repurchase authorization supersedes the previous authorization of \$750 million, of which approximately \$232 million remained at the reauthorization date. No time limit was set for the completion of the program which conforms to the requirements under the Restated Credit Agreement and the indentures for the Senior Notes currently outstanding. The Company may repurchase shares in the future at any time, depending upon market conditions, our capital needs and other factors. Purchases of shares may be made by open market purchases or privately negotiated purchases and may be made pursuant to Rule 10b5-1 plan or otherwise.

Item 6. [RESERVED]

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

Wabtec is one of the world's largest providers of value-added, technology-based locomotives, equipment, systems and services for the global freight rail and passenger transit industries, and also serves customers in the mining, marine, and industrial markets. Our highly engineered products, which are intended to enhance safety, improve productivity and reduce maintenance costs for customers, can be found on most locomotives, freight cars, passenger transit cars and buses around the world. Our core products and services are essential in the safe and efficient operation of freight rail and passenger transit vehicles. Wabtec is a global company with operations in over 50 countries and our products can be found in more than 100 countries throughout the world. In 2022, approximately 55% of the Company's net sales came from customers outside the U.S.

Wabtec's long-term financial goals are to drive strong cash flow conversion, maintain a strong credit profile while minimizing our overall cost of capital, increase margins through strict attention to cost controls, drive improved efficiencies across the business, and increase revenues through a focused growth strategy, including product innovation and new technologies, global and market expansion, aftermarket products and services, and strategic acquisitions. In addition, Management evaluates the Company's current operational performance through measures such as safety, quality and on-time delivery.

The Company primarily serves the worldwide freight and transit rail industries. Our operating results are largely dependent on the level of activity, financial condition and capital spending plans of railroads and passenger transit agencies around the world, and transportation equipment manufacturers who serve those markets. Many factors influence these industries, including general economic conditions; traffic volumes, as measured by freight carloads and passenger ridership; number of locomotives and railcars in operation; government spending on public transportation; and investment in new technologies. In general, trends such as urbanization and growth in developing markets, sustainability and environmental awareness, investment in technology solutions, an aging equipment fleet, and growth in global trade are expected to drive continued investment in freight rail and passenger transit.

The Company monitors a variety of factors and statistics to gauge market activity. Freight rail markets around the world are driven primarily by overall economic conditions and activity, while Transit markets are driven primarily by government funding and passenger ridership. Changes in these market drivers can cause fluctuations in demand for Wabtec's products and services.

Business Update

During 2022, Wabtec achieved a multitude of accomplishments while successfully navigating volatile market conditions. Through leveraging our installed customer base and our innovative scalable technologies, Wabtec was able to secure several key contracts globally that position the Company for long-term revenue generation. These contracts include the largest locomotive modernization deal in rail industry history, orders for our FLXdrive battery-electric powered locomotives, international locomotive orders, as well as a North American locomotive order with a Class I railroad. Wabtec executed on calculated market expansions through several strategic acquisitions that will allow us to leverage current and future product and service offerings for greater market share. Wabtec continued significant progress on our sustainability initiatives as exhibited in our completed green bond allocation and with our battery electric locomotive being recognized for sustainable innovation by the Business Intelligence Group and awarded "Commercial Technology of the Year" at the Platts Global Energy Awards. Management also launched Integration 2.0 to further poise the company for operational efficiencies into the future.

During the first quarter of 2022, Wabtec announced Integration 2.0, a three-year strategic initiative to target incremental run rate synergies estimated to be between \$75 million and \$90 million by 2025. The scope of the review includes consolidating our operating footprint, reducing headcount, streamlining the end-to-end manufacturing process, restructuring the North America distribution channels, expanding operations in low-cost countries and simplifying the business through systems enablement, including the source-to-pay process. Management will also consider additional capital investments to further simplify and streamline the business. The Company anticipates that it will incur one-time charges of approximately \$135 million to \$165 million related to this initiative. The estimate could change based on the specific programs approved or changes to the scope of the review. During 2022, the Company incurred one-time charges related to the initiative of approximately \$46 million, primarily for employee-related costs associated with site consolidations in Europe and costs related to the restructuring of the North America distribution channels. See Note 21 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report for additional information.

The unfavorable global economic conditions driven by the impacts of the pandemic and supply chain disruptions, and further intensified by the Russian invasion of Ukraine, continue to have an adverse impact on our operations and business results. Impacts for the years ended December 31, 2022, and 2021 are discussed in more detail in the Results of Operations section below. Supply chain disruptions and labor availability have caused component, raw material and chip shortages

resulting in an adverse effect on the timing of the Company's revenue generation. Additionally, broad-based inflation, escalation of diesel, metals, energy and other commodity costs, transportation and logistics costs, labor costs, and foreign currency exchange rate fluctuations all continue to impact our results.

The Russian invasion of Ukraine and the resultant sanctions related to Russia and Belarus have further impacted our supply and distribution channels and caused significant price inflation which had, and are expected to continue to have, adverse effects on Wabtec's business results. For the year ended December 31, 2021, prior to the Russian invasion of Ukraine and the resulting imposition of various sanctions against Russia and Belarus, Wabtec had earnings of approximately \$40 million attributable to customers in Russia, while earnings from customers in Ukraine and Belarus were not significant. As of December 31, 2022 and 2021, Wabtec had approximately \$14 million and \$20 million of assets, respectively, related to Russian operations, which were primarily cash and inventory. Management has determined, based on information currently available, that these assets are expected to be recoverable and therefore no impairment was recorded during 2022. This will continue to be monitored and may result in a future impairment charge based on changes in the situation. Management determined that inventory related to operations in Ukraine were not expected to be recoverable and were written off resulting in an insignificant charge during the first quarter of 2022. Remaining assets related to Ukraine and those in Belarus were not significant.

The Company has implemented various mitigating actions intended to lessen the impact of these unfavorable economic conditions. These actions include implementing price escalations and surcharges, driving operational efficiencies through various cost mitigation efforts and discretionary spend management, strategically sourcing materials, reviewing and modifying distribution logistics, and accelerating integration synergies where possible, including Integration 2.0. Additionally, the Company has proactively built-up inventory ahead of expected growth and in response to supply chain challenges to minimize further interruption on customer orders. The Company expects to continue to incur increased costs in future quarters. We also face the possibility that additional actions may be taken by governmental authorities and private industry, or government policies may become more restrictive in response to the pandemic, especially if COVID-19 transmission rates increase in certain areas, which could result in curtailing operations of our plants. Uncertainty around the economic conditions driven by the pandemic and the Russian invasion of Ukraine could result in significant adverse impacts to the Company. Changes in trade regulations, retaliatory measures, advancements, or changes in the conflict in Ukraine could cause significant adverse impacts to our customers, suppliers, distribution channels and operating locations, and in turn could result in material adverse impacts to the business, including impairment charges from changes in estimates.

Management will continue to monitor the evolving situations but, as a result of the numerous uncertainties surrounding the pandemic, continued supply chain disruptions, labor shortages, inflation, and the Russian invasion of Ukraine, we are unable to specifically predict the extent and length of time that our business may be negatively impacted. Uncertainty around general global economic and market conditions, including fluctuations in currency exchange rates, could have an impact on our sales and operations in 2023 and beyond. To the extent that these factors cause further instability of capital markets, supply chain disruptions including shortages of raw materials or component parts, labor availability, longer sales cycles, deferral or delay of customer orders, or an inability to market or distribute our products effectively, our business and results of operations could be materially adversely affected.

Cyber Incident

As previously announced, on June 26, 2022, we detected a cyber security incident which impacted the Company's network. The Company promptly activated incident response protocols, which included shutting down certain systems, and commenced an investigation of the incident. The Company also notified law enforcement and engaged legal counsel and other third-party incident response and cybersecurity professionals.

Based on the Company's assessment, the incident has not had a material financial impact and the Company does not believe the incident will have a material impact on its business, operations or financial results. The Company maintains cyber insurance, subject to certain deductibles and policy limitations typical for its size and industry.

ACQUISITIONS

During 2022, the Freight Segment made three strategic acquisitions for a combined purchase price of \$89 million. Two of the acquisitions are reported in the Digital Electronics product line and one is reported in the Services product line. Each of the acquisitions in 2022 are individually and collectively immaterial. On March 31, 2021, the Services product line of the Freight Segment acquired Nordco, a leading North American supplier of new, rebuilt and used maintenance of way equipment. The Company also made acquisitions in prior periods not listed above which are individually and collectively immaterial. For additional information related to these acquisitions refer to Note 3 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report.

RESULTS OF OPERATIONS

Consolidated Results

2022 COMPARED TO 2021

The following table shows our Consolidated Statements of Operations for the years indicated.

<i>In millions</i>	For the year ended December 31,	
	2022	2021
Net sales:		
Sales of goods	\$ 6,459	\$ 6,205
Sales of services	1,903	1,617
Total net sales	8,362	7,822
Cost of sales:		
Cost of goods	(4,791)	(4,545)
Cost of services	(1,031)	(908)
Total cost of sales	(5,822)	(5,453)
Gross profit	2,540	2,369
Operating expenses:		
Selling, general and administrative expenses	(1,029)	(1,030)
Engineering expenses	(209)	(176)
Amortization expense	(291)	(287)
Total operating expenses	(1,529)	(1,493)
Income from operations	1,011	876
Other income and expenses:		
Interest expense, net	(186)	(177)
Other income, net	29	38
Income before income taxes	854	737
Income tax expense	(213)	(172)
Net income	641	565
Less: Net income attributable to noncontrolling interest	(8)	(7)
Net income attributable to Wabtec shareholders	\$ 633	\$ 558

The following table shows the major components of the change in net sales in 2022 from 2021:

<i>In millions</i>	Freight Segment	Transit Segment	Total
2021 Net Sales	\$ 5,239	\$ 2,583	\$ 7,822
Acquisitions	83	4	87
Foreign Exchange	(62)	(242)	(304)
Organic	752	5	757
2022 Net Sales	\$ 6,012	\$ 2,350	\$ 8,362

The following discussion compares our results for the year ended December 31, 2022 to the year ended December 31, 2021. The discussion comparing our results for the year ended December 31, 2021 to the year ended December 31, 2020 is included within Management's Discussion and Analysis of Financial Condition and Results of Operation in our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on February 17, 2022.

Net sales

Net sales for the year ended December 31, 2022 increased by \$540 million, or 6.9%, to \$8.36 billion compared to the same period in 2021. Organic sales increased \$757 million which is primarily attributable to the Freight Segment driven by an increase in Services sales from higher locomotive modernizations and a larger active locomotive fleet, and an increase in Equipment sales due to higher international locomotive sales and higher mining equipment sales. In addition, Components sales increased due to a higher railcar build, increased railcars in operation, and growth in industrial end-markets and Digital Electronics sales increased due to higher demand for on-board locomotive products and technology upgrades. Sales from

acquisitions contributed \$87 million, primarily in the Freight Segment and unfavorable changes in foreign exchange rates decreased sales by \$304 million, primarily in the Transit segment.

Cost of sales

Cost of sales for the year ended December 31, 2022 increased by \$369 million, or 6.8%, to \$5.82 billion compared to the same period in 2021. The increase is primarily due to the increase in sales and increased materials, labor and transportation costs. Cost of sales as a percentage of sales was 69.6% and 69.7% for the years ended December 31, 2022 and 2021, respectively. The decrease as a percentage of sales is primarily due to improved productivity and lower restructuring costs, partially offset by unfavorable product mix and the increase in the costs described above. Cost of sales for the years ended December 31, 2022 and 2021 included \$43 million and \$53 million, respectively, of restructuring costs primarily for footprint rationalization and headcount actions, with the amount in 2022 primarily related to Integration 2.0.

Operating expenses

Total operating expenses increased \$36 million, or 2.4%, for the year ended December 31, 2022 compared to the same period in 2021. Operating expenses as a percentage of sales was 18.3% and 19.1% for the years ended December 31, 2022 and 2021, respectively. Selling, general and administrative expenses ("SG&A") decreased \$1 million for the year ended December 31, 2022 compared to the same period in 2021. The decrease is primarily due to a decrease in restructuring costs, the effects of foreign exchange rates and lower employee compensation and benefit costs, partially offset by costs incurred to support the higher sales volume and incremental expense from acquisitions. Restructuring costs included in SG&A were \$9 million and \$25 million for the years ended December 31, 2022 and 2021, respectively, and were primarily for headcount actions and footprint rationalization programs, with the amount in 2022 primarily related to Integration 2.0. Engineering expense increased \$33 million primarily due to investments in new technology and incremental costs from acquisitions. Amortization expense increased \$4 million, due to acquisitions.

Interest expense, net

Interest expense, net, increased \$9 million to \$186 million for the year ended December 31, 2022 over the same period in 2021 primarily attributable to higher average interest rates.

Other income, net

Other income, net, decreased \$9 million to \$29 million for the year ended December 31, 2022 compared to the same period of 2021. The decrease is primarily attributable to lower foreign exchange gains and lower equity income in the current year compared to the prior year.

Income taxes

The effective income tax rate was 25.0% and 23.2% for the years ended December 31, 2022 and 2021, respectively, representing a 1.8 percentage point increase. The rate for the year ended December 31, 2021 was favorably impacted by filing amended federal and state income tax returns for a prior year to incorporate changes in tax regulations. The absence of this benefit in the current year was partially offset by a more favorable earnings mix across jurisdictions. See Note 11 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report for additional information.

Freight Segment

The following table shows our Consolidated Statements of Operations for our Freight Segment:

<i>In millions</i>	For the year ended December 31,	
	2022	2021
Net sales:		
Sales of goods	\$ 4,125	\$ 3,646
Sales of services	1,887	1,593
Total net sales	6,012	5,239
Cost of sales:		
Cost of goods	(3,098)	(2,682)
Cost of services	(1,018)	(890)
Total cost of sales	(4,116)	(3,572)
Gross profit	1,896	1,667
Operating expenses	(1,032)	(950)
Income from operations (\$)	\$ 864	\$ 717
Income from operations (% of net sales)	14.4 %	13.7 %

The following table shows the major components of the change in net sales for the Freight Segment in 2022 from 2021:

<i>In millions</i>	
2021 Net Sales	\$ 5,239
Acquisitions	83
Foreign Exchange	(62)
Changes in Sales by Product Line:	
Services	347
Equipment	251
Components	96
Digital Electronics	58
2022 Net Sales	\$ 6,012

Net sales

Freight Segment sales increased by \$773 million, or 14.8%, to \$6.01 billion, compared to the same period in 2021 which was primarily attributable to an increase in Services sales from higher locomotive modernizations and a larger active locomotive fleet, and an increase in Equipment sales due to higher international locomotive sales and higher mining equipment sales. In addition, Components sales increased due to a higher railcar build, increased railcars in operation, and growth in industrial end-markets and Digital Electronics sales increased due to higher demand for on-board locomotive products and technology upgrades. Sales from acquisitions contributed \$83 million and the effects of unfavorable foreign exchange rates decreased sales by \$62 million.

Cost of sales

Freight Segment cost of sales increased by \$544 million, or 15.2%, to \$4.12 billion, compared to the same period in 2021. The increase is primarily due to the increase in sales and increased materials, transportation and labor costs. Cost of sales as a percentage of sales was 68.5% and 68.2% for the years ended December 31, 2022 and 2021, respectively, representing a 0.3 percentage point increase primarily from the higher costs described above, higher restructuring costs and unfavorable product mix, partially offset by improved productivity. Cost of sales for the years ended December 31, 2022 and 2021 includes \$15 million and \$8 million, respectively, of restructuring costs, primarily for headcount actions and footprint rationalization, with the amount in 2022 primarily related to Integration 2.0.

Operating expenses

Freight Segment operating expenses increased \$82 million, or 8.6%, for the year ended December 31, 2022 compared to the same period in 2021. SG&A increased \$41 million for the year ended December 31, 2022 compared to the same period in 2021. The increase is primarily due to higher costs to support the increase in sales volumes, incremental expense from

acquisitions and higher technology costs. Engineering expense increased \$36 million primarily due to investments in new technology and incremental expense from acquisitions. Amortization expense increased \$5 million due to acquisitions.

Transit Segment

The following table shows our Consolidated Statements of Operations for our Transit Segment:

<i>In millions</i>	For the year ended December 31,	
	2022	2021
Net sales	\$ 2,350	\$ 2,583
Cost of sales	(1,706)	(1,881)
Gross profit	644	702
Operating expenses	(413)	(464)
Income from operations (\$)	\$ 231	\$ 238
Income from operations (% of net sales)	9.8 %	9.2 %

The following table shows the major components of the change in net sales for the Transit Segment in 2022 from 2021:

<i>In millions</i>		
2021 Net Sales	\$	2,583
Foreign Exchange		(242)
Acquisitions		4
Changes in Sales by Product Line:		
Original Equipment Manufacturing		(3)
Aftermarket		8
2022 Net Sales	\$	2,350

Net sales

Transit Segment sales for the year ended December 31, 2022 decreased by \$233 million, or 9.0%, to \$2.35 billion compared to the same period in 2021, with foreign exchange rates being the primary driver of the decrease. Transit segment organic sales increased \$5 million with the primary driver being increased demand and an increase in government transportation spending, particularly for Aftermarket products. Additionally, both Original Equipment Manufacturing and Aftermarket sales were impacted by supply chain issues and manufacturing disruptions caused by the second quarter cyber incident.

Cost of sales

Transit Segment cost of sales for the year ended December 31, 2022 decreased by \$175 million, or 9.3%, to \$1.71 billion compared to the same period in 2021. The decrease is primarily due to the decreased sales discussed above, decreased restructuring costs and the effect of foreign exchange rates. Cost of sales as a percentage of sales was 72.6% and 72.8% for the years ended December 31, 2022 and 2021, respectively, representing a 0.2 percentage point decrease. This can be attributed to improved productivity and savings from prior year cost actions taken through restructuring programs, partially offset by increased materials, transportation and labor costs and inefficiencies associated with the cyber incident. Cost of sales for the years ended December 31, 2022 and 2021 included \$28 million and \$45 million of restructuring costs, respectively, primarily for headcount actions and footprint rationalization in Europe, with the amount in 2022 primarily related to Integration 2.0.

Operating expenses

Transit Segment operating expenses decreased \$51 million, or 11.0%, in 2022 compared to the same period in 2021 driven primarily by a decrease in SG&A of \$47 million. The decrease is due to the decrease in sales, the effects of foreign exchange rates, lower employee compensation and benefit costs, the cost actions taken in the prior year and decreased restructuring costs. Restructuring costs included within SG&A were \$9 million and \$14 million for the years ended December 31, 2022 and 2021, respectively, and were primarily for headcount actions for footprint rationalization in Europe, with the amount in 2022 primarily related to Integration 2.0. Engineering expense decreased \$3 million and amortization expense decreased \$1 million both due to the effects of foreign exchange rates.

Liquidity and Capital Resources

Liquidity is provided by operating cash flows and borrowings under the Company's Senior Notes and unsecured credit facility with a consortium of commercial banks. Additionally, the Company utilizes the revolving receivables program and supply chain financing program described below for added flexibility as part of our liquidity management strategy. The following is a summary of selected cash flow information and other relevant data:

<i>In millions</i>	For the year ended December 31,	
	2022	2021
Cash provided by (used for):		
Operating activities	\$ 1,038	\$ 1,073
Investing activities	\$ (235)	\$ (540)
Financing activities	\$ (708)	\$ (653)

Operating activities. Cash provided by operations decreased \$35 million in 2022 to \$1,038 million compared with \$1,073 million in 2021. Significant changes to the sources and (uses) of cash for the twelve month periods include the following:

- \$11 million attributable to higher Net income and other changes in the related statements of income amounts;
- \$(106) million from net changes in working capital driven by: \$(327) million unfavorable change in inventory from proactive inventory build-ups ahead of expected growth, in response to supply chain challenges, and in preparation for certain large contracts secured during 2022, as well as higher costs of inventory due to inflation; \$197 million in accounts payable, primarily due to the timing of payments to suppliers; and, \$24 million from changes in receivables due to timing and volume of sales and the net change in the Revolving Receivables Program;
- \$143 million from changes in the timing of customer deposits; and,
- \$(100) million from higher employee related benefits and the timing of payments related to severance accruals.

Investing activities. In 2022 and 2021, cash used for investing activities was \$(235) million and \$(540) million, respectively. The major components of the cash outflow in 2022 was planned additions to property, plant, and equipment of \$(149) million for continued investments in our facilities and manufacturing processes, and \$(89) million in net cash paid for acquisitions. The major components of the cash outflow in 2021 were \$(435) million in net cash paid for acquisitions, primarily for Nordco, and \$(130) million for additions to property, plant, and equipment.

Financing activities. In 2022, cash used for financing activities was \$(708) million, which included \$(473) million for share repurchases, \$(111) million of dividend payments, \$(101) million of contingent consideration payments related to the GE Transportation acquisition, and net debt payments of \$(30) million, which includes the partial redemption of the 2024 Notes mentioned below. In 2021, cash used for financing activities was \$(653) million which included, \$(300) million for share repurchases, net debt payments of \$(161) million, primarily resulting from the repayment of the 364 Day Facility and issuance of the Euro Notes mentioned below, \$(99) million of contingent consideration payments related to the GE Transportation acquisition and \$(92) million of dividend payments.

During the second quarter of 2022, the Company redeemed \$25 million of principal from the 2024 Notes plus a premium and the related accrued interest.

On August 15, 2022, the Company amended, restated and replaced the then-existing credit agreement. The Restated Credit Agreement updated the multi-currency revolving credit facility from \$1.2 billion to \$1.5 billion and added a new Delayed Draw Term Loan of up to \$250 million. The Company borrows and repays against the revolving credit facility for added flexibility in liquidity to manage cash during the operating cycle. The proceeds from borrowing and the repayments are shown within the "Proceeds from debt, net of issuance costs" and "Payments of debt" lines, respectively, presented in the Consolidated Statements of Cash Flows.

On June 3, 2021, Wabtec Transportation Netherlands B.V. ("Wabtec Netherlands") issued €500 million of 1.25% Senior Notes due in 2027, which are fully and unconditionally guaranteed by the Company, for approximately \$599 million in proceeds after consideration of the discount. Also on June 3, 2021, the Company repaid all outstanding borrowings and interest related to the 364 Day Facility, effectively retiring the facility. Additional information with respect to credit facilities and long-term debt is included in Note 9 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report.

As of December 31, 2022, the Company held approximately \$541 million of cash, cash equivalents, and restricted cash. Of this amount, approximately \$88 million was held within the United States and approximately \$453 million was held outside

of the United States, primarily in India, China, Europe, and Brazil. While repatriation of some cash held outside the United States may be restricted by local laws, most of the Company's foreign cash could be repatriated to the United States net of any tax impacts. As of December 31, 2022, \$7 million of the Company's \$541 million cash balance was classified as restricted cash.

Revolving Receivables Program

The Company utilizes a revolving receivables facility to sell up to \$350 million of certain receivables through our bankruptcy-remote subsidiary to a financial institution on a recurring basis in exchange for cash equal to the gross receivables sold. As customers pay their balances, we transfer additional receivables into the program, which could result in our gross receivables sold being higher or lower than collections reinvested for any applicable periods. Net cash received/(remitted) from the revolving receivables program was \$60 million and \$(53) million for the years ended December 31, 2022 and 2021, respectively. Additional information with respect to the Revolving Receivables Program is included in Note 2 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report and incorporated by reference herein.

Supply Chain Financing Program

The Company has entered into supply chain financing arrangements with third-party financial institutions to provide our vendors with enhanced payment options while providing the Company with added working capital flexibility. The Company does not provide any guarantees under these arrangements, does not have an economic interest in our supplier's voluntary participation and does not receive an economic benefit from the financial institutions. The arrangements do not change the payable terms negotiated by the Company and our vendors and does not result in a change in the classification of amounts due as accounts payable in the Consolidated Balance Sheets.

Guarantor Summarized Financial Information—US Notes

The obligations under the Company's US Notes have been fully and unconditionally guaranteed by certain of the parent company's U.S. subsidiaries. Each guarantor is 100% owned by the parent company, with the exception of GE Transportation, a Wabtec Company, which has 15,000 shares outstanding of Class A Non-Voting Preferred Stock held by General Electric Company. The Euro Notes are issued by Wabtec Netherlands and are fully and unconditionally guaranteed by the Company.

On January 1, 2022, the Company completed an internal legal entity reorganization that resulted in changes to the subsidiaries and operating divisions serving as guarantors under the Company's US Notes. As such, certain prior year amounts have been reclassified, where necessary, to conform to the current year presentation in line with the legal reorganization. Refer to Exhibit 22 for the updated list of guarantor subsidiaries.

The following tables present summarized financial information of the parent and the guarantor subsidiaries on a combined basis. The combined summarized financial information eliminates intercompany balances and transactions among the parent and guarantor subsidiaries and equity in earnings and investments in any guarantor subsidiaries or non-guarantor subsidiaries. The summarized financial information is provided in accordance with the reporting requirements of Rule 13-01 under SEC Regulation S-X for the issuer and guarantor subsidiaries.

Summarized Statement of Income

	Unaudited Westinghouse Air Brake Technologies Corp. and Guarantor Subsidiaries Year Ended December 31, 2022	
<i>In millions</i>		
Net sales	\$	4,761
Gross profit		1,111
Net income attributable to Wabtec shareholders		282

Summarized Balance Sheets

	Unaudited Westinghouse Air Brake Technologies Corp. and Guarantor Subsidiaries			
	December 31, 2022		December 31, 2021	
<i>In millions</i>				
Current assets	\$	1,328	\$	1,057
Noncurrent assets	\$	2,384	\$	2,344
Current liabilities	\$	1,881	\$	1,414
Long-term debt	\$	3,209	\$	3,483
Other non-current liabilities	\$	551	\$	592

The following is a description of the transactions between the combined Westinghouse Air Brake Technologies Corp. and guarantor subsidiaries with non-guarantor subsidiaries.

	Unaudited Westinghouse Air Brake Technologies Corp. and Guarantor Subsidiaries Year Ended December 31, 2022	
<i>In millions</i>		
Net sales to Non-Guarantor Subsidiaries	\$	763
Purchases from Non-Guarantor Subsidiaries		1,143

	Unaudited Westinghouse Air Brake Technologies Corp. and Guarantor Subsidiaries December 31, 2022	
<i>In millions</i>		
Amount due (to)/from Non-Guarantor Subsidiaries	\$	(6,821)

Summarized Financial Information—Euro Notes

The obligations under Wabtec Netherlands' Euro Notes are fully and unconditionally guaranteed by the Company. Wabtec Netherlands is a wholly-owned, indirect subsidiary of the parent company. Wabtec Netherlands is a holding company and does not have any independent operations. Its assets consist of its investments in subsidiaries, which are separate and distinct legal entities that are not guarantors of the Euro Notes and have no obligations to pay amounts due under Wabtec Netherlands' obligations.

On January 1, 2022, the Company completed an internal legal entity reorganization that resulted in changes to the operating divisions serving as the parent guarantor under the Company's Euro Notes. As such, certain prior year amounts have been reclassified, where necessary, to conform to the current year presentation in line with the legal reorganization.

The following tables present summarized financial information of Wabtec Netherlands, as the issuer of the Euro Notes, and Westinghouse Air Brake Technologies Corporation, as the parent guarantor, on a combined basis. The combined summarized financial information eliminates all intercompany balances and transactions among Wabtec Netherlands and Westinghouse Air Brake Technologies Corporation as well as all equity in earnings from and investments in any subsidiary of Westinghouse Air Brake Technologies Corporation, other than Wabtec Netherlands, which we refer to below as the Non-Issuer and Non-Guarantor Subsidiaries. The summarized financial information is provided in accordance with the reporting requirements of Rule 13-01 under SEC Regulation S-X for the issuer and parent guarantor.

Summarized Statement of Income

<i>In millions</i>	Unaudited Issuer and Guarantor Twelve Months Ended December 31, 2022	
Net sales	\$	437
Gross profit		68
Net loss attributable to Wabtec shareholders		(318)

Summarized Balance Sheets

<i>In millions</i>	Unaudited Issuer and Guarantor			
	December 31, 2022		December 31, 2021	
Current assets	\$	264	\$	217
Noncurrent assets	\$	770	\$	770
Current liabilities	\$	733	\$	479
Long-term debt	\$	3,740	\$	4,044
Other non-current liabilities	\$	128	\$	207

The following is a description of the transactions between the combined Westinghouse Air Brake Technologies Corp. and Wabtec Netherlands, with the subsidiaries of Westinghouse Air Brake Technologies Corp., other than Wabtec Netherlands, none of which are guarantors of the Euro Notes.

<i>In millions</i>	Unaudited Issuer and Guarantor Twelve Months Ended December 31, 2021	
Net sales to non-issuer and non-guarantor subsidiaries	\$	33
Purchases from non-issuer and non-guarantor subsidiaries		82

<i>In millions</i>	Unaudited Issuer and Guarantor December 31, 2021	
Amount due from/(to) non-issuer and non-guarantor subsidiaries	\$	(7,703)

Contractual Obligations and Off-Balance Sheet Arrangements

The Company is obligated to make future payments under various contracts such as purchase, debt and lease agreements and has certain contingent commitments. The Company has grouped these contractual obligations and off-balance sheet arrangements into operating activities, financing activities, and investing activities in the same manner as they are classified in the Statement of Consolidated Cash Flows to provide a better understanding of the nature of the obligations and arrangements and to provide a basis for comparison to historical information. The table below provides a summary of contractual obligations and off-balance sheet arrangements as of December 31, 2022:

<i>In millions</i>	Total	2023	2024-25	2026-27	2028+
Operating activities:					
Purchase obligations ⁽¹⁾	\$ 168	\$ 157	\$ 10	\$ 1	\$ —
Operating leases ⁽²⁾	357	61	99	68	129
Pension and postretirement benefit payments ⁽³⁾	189	17	35	38	99
Interest payments ⁽⁴⁾	607	153	229	163	62
Financing activities:					
Long-term debt	4,023	251	1,237	1,285	1,250
Dividends to shareholders ⁽⁵⁾	123	123	—	—	—
Contingent consideration ⁽⁶⁾	154	105	49	—	—
Total	\$ 5,621	\$ 867	\$ 1,659	\$ 1,555	\$ 1,540

- (1) Purchase obligations represent non-cancelable contractual obligations at December 31, 2022. In addition, the Company had approximately \$1.7 billion of open purchase orders for which the related goods or services had not been received. Although open purchase orders are considered enforceable and legally binding, their terms generally allow us the option to cancel, reschedule and adjust our requirements based on our business needs prior to the delivery of goods or performance of services.
- (2) Operating leases represent multi-year obligations for rental of facilities and equipment.
- (3) Pension and postretirement benefit payments includes expected payments to participants out of plan assets and corporate assets. The benefit payments are based on actuarial estimates using current assumptions for discount rates, expected return on long-term assets and rate of compensation increases. The Company expects to contribute \$2 million to pension plan investments in 2023.
- (4) Interest payments on the Senior Notes are based on interest rates in effect as of December 31, 2022 and are calculated on debt with maturities that extend to 2028.
- (5) Shareholder dividends are subject to approval by the Company's Board of Directors, currently at an annual rate of approximately \$123 million.
- (6) Contingent consideration represents the total remaining payable to General Electric (GE) resulting from the 2019 acquisition of GE Transportation. The timing of the cash payments to GE is directly related to the future timing of tax benefits received by the Company and could change.

The above table does not reflect uncertain tax positions of \$33 million, the timing of which are uncertain. Refer to Note 11 of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report for additional information on uncertain tax positions. Additionally, the Company arranges for certain types of bank guarantees and letters of credit, such as performance bonds, bid bonds and financial guarantees, that are issued by certain banks and insurance companies to support customer contracts. At December 31, 2022, the total value of these bank guarantees and letters of credit were \$865 million and expire on various dates through 2039. Amounts include interest payments based on contractual terms and the Company's current interest rate.

Forward Looking Statements

We believe that all statements other than statements of historical facts included in this report, including certain statements under "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," may constitute forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events. Although we believe that our assumptions made in connection with the forward-looking statements are reasonable, we cannot assure that our assumptions and expectations are correct.

These forward-looking statements are subject to various risks, uncertainties and assumptions about us, including, among other things:

Economic and industry conditions

- changes in general economic and/or industry specific conditions, including the impacts of tax and tariff programs, inflation, supply chain disruptions, foreign currency exchange, and industry consolidation;
- prolonged unfavorable economic and industry conditions in the markets served by us, including North America, South America, Europe, Australia, Asia and Africa;
- decline in demand for freight cars, locomotives, passenger transit cars, buses and related products and services;
- reliance on major original equipment manufacturer customers;
- original equipment manufacturers' program delays;
- demand for services in the freight and passenger rail industry;
- demand for our products and services;
- orders either being delayed, canceled, not returning to historical levels, or reduced or any combination of the foregoing;
- consolidations in the rail industry;
- continued outsourcing by our customers;
- industry demand for faster and more efficient braking equipment;
- fluctuations in interest rates and foreign currency exchange rates;
- availability of credit; or
- changes in market consensus as to what attributes are required for projects to be considered "green" or "sustainable" or negative perceptions regarding determinations in such regard with respect to our Green Finance Framework;

Operating factors

- supply disruptions;
- technical difficulties;
- changes in operating conditions and costs;
- increases in raw material costs;
- successful introduction of new products;
- performance under material long-term contracts;
- labor availability and relations;
- the outcome of our existing or any future legal proceedings, including litigation involving our principal customers and any litigation with respect to environmental matters, asbestos-related matters, pension liabilities, warranties, product liabilities, competition and anti-trust matters or intellectual property claims;
- completion and integration of acquisitions;
- the development and use of new technology; or
- cybersecurity and data protection risks;

Competitive factors

- the actions of competitors; or
- the outcome of negotiations with partners, suppliers, customers or others;

Political/governmental factors

- political stability in relevant areas of the world, including the impacts of war and conflicts;
- future regulation/deregulation of our customers and/or the rail industry;
- levels of governmental funding on transit projects, including for some of our customers;

- political developments and laws and regulations, including those related to Positive Train Control;
- federal and state income tax legislation;
- sanctions imposed on countries and persons; or
- the outcome of negotiations with governments;

COVID-19 factors

- the severity and duration of the pandemic;
- deterioration of general economic conditions;
- shutdown of one or more of our operating facilities;
- supply chain and sourcing disruptions;
- ability of our customers to pay timely for goods and services delivered;
- health of our employees;
- ability to retain and recruit talented employees; or
- difficulty in obtaining debt or equity financing.

Statements in this Form 10-K apply only as of the date on which such statements are made, and except as required by law, we undertake no obligation to update any statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events.

Critical Accounting Estimates

The preparation of the financial statements in accordance with generally accepted accounting principles requires management to make judgments, estimates and assumptions regarding uncertainties that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities and the reported amounts of revenues and expenses. Areas of uncertainty that require judgments, estimates and assumptions include the accounting for allowance for doubtful accounts, inventories, business combinations, goodwill and other intangible assets, warranty reserves, income taxes, and revenue recognition. Management uses historical experience and all available information to make these judgments and estimates, and actual results may differ from those estimates and assumptions that are used to prepare the Company's financial statements at any given time. Despite these inherent limitations, management believes that Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) and the financial statements and related footnotes provide a meaningful and fair perspective of the Company.

A summary of the Company's significant accounting policies is included in Note 2 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report. Management believes that the application of these policies on a consistent basis enables the Company to provide the users of the financial statements with useful and reliable information about the Company's operating results and financial condition.

Accounts Receivable and Allowance for Doubtful Accounts:

Description The Company provides an allowance for doubtful accounts to cover anticipated losses on uncollectible accounts receivable.

Judgments and Uncertainties The allowance for doubtful accounts receivable reflects our best estimate of expected losses inherent in our receivable portfolio determined on the basis of historical experience, relevant credit forecast information, changes to customer's solvency and other currently available evidence.

Effect if Actual Results Differ From Assumptions If our estimates regarding the collectability of troubled accounts, and/or our actual losses within our receivable portfolio exceed our estimated losses, we may be exposed to the expense of increasing our allowance for doubtful accounts and loss of cash flows.

Inventories:

Description Inventories are stated at the lower of cost or net realizable value and are reviewed to ensure that an adequate provision is recognized for excess, slow moving and obsolete inventories, and net realizable value reserves.

Judgments and Uncertainties Cost is determined primarily using the first-in, first-out (FIFO) method. Inventory costs include material, labor and overhead. The Company compares inventory components to prior year sales history, current backlog and anticipated future requirements. To the extent that inventory parts exceed estimated usage and demand, a reserve is recognized

to reduce the carrying value of inventory. Also, specific reserves are established for known inventory obsolescence, a decline in market value, or loss of a customer with specific inventory.

Effect if Actual Results Differ From Assumptions If the market value or demand for our products were to decrease due to changing market conditions, the Company could be at risk of incurring write-downs to adjust inventory value to a net realizable value lower than stated cost. If our estimates regarding sales and backlog requirements are inaccurate, we may be exposed to the expense of increasing our reserves for slow moving and obsolete inventory.

Business Combinations:

Description The Company accounts for business acquisitions in accordance with ASC 805, *Business Combinations*, which requires the purchase price of the acquired business to be allocated to tangible and intangible assets acquired and liabilities assumed based on the respective fair values. The amount of purchase price which is in excess of the fair values of assets acquired and liabilities assumed is recognized as goodwill.

Judgments and Uncertainties Discounted cash flow models are used to estimate the fair values of acquired contract backlog, customer relationships, intellectual property intangibles and trade names, and below-market customer contract liabilities. The significant assumptions used to estimate the value of the intangible assets and below-market customer contract liabilities include revenue growth rates, projected profit margins, discount rates, royalty rates, customer attrition rates, revenue obsolescence rates and market participant profit margins. These significant assumptions are forward-looking and could be affected by future economic and market conditions.

Effect if Actual Results Differ From Assumptions Different assumptions may result in materially different values for assets acquired and liabilities assumed, which may impact the Company's financial position and future results of operations, including potential future impairment charges.

Goodwill and Indefinite-Lived Intangible Assets:

Description Goodwill and indefinite-lived intangibles are required to be tested for impairment at least annually. The Company performs its annual impairment test during the fourth quarter and more frequently when indicators of impairment are present. The Company reviews goodwill for impairment at the reporting unit level. The Company has identified three reporting units for purposes of testing goodwill for impairment. Two reporting units exist within the Freight segment and the Transit segment is also a reporting unit. The evaluation of impairment involves comparing the current fair value of the business to the recorded value (including goodwill).

Judgments and Uncertainties A number of significant assumptions and estimates are involved in the application of the impairment test, including the identification of macroeconomic conditions, industry and market considerations, cost factors, and overall financial performance. We also consider Wabtec-specific events and share price trends and making the assessment on whether each relevant factor will impact the impairment test positively or negatively and the magnitude of any such amount.

Effect if Actual Results Differ From Assumptions Management considers historical experience and all available information at the time the fair values of its reporting units are estimated. However, actual amounts realized may differ from those used to evaluate the impairment of goodwill and indefinite lived intangible assets. If actual results are not consistent with our assumptions and judgments used in estimating future cash flows and asset fair values, we may be exposed to impairment losses that could be material to our results of operations.

Warranty Reserves:

Description The Company provides warranty reserves to cover expected costs from repairing or replacing products with durability, quality or workmanship issues occurring during established warranty periods.

Judgments and Uncertainties In general, reserves are provided for as a percentage of sales, based on historical experience. In addition, specific reserves are established for known warranty issues and their estimable losses.

Effect if Actual Results Differ From Assumptions If actual results are not consistent with the assumptions and judgments used to calculate our warranty liability, the Company may be exposed to the expense of increasing our reserves for warranty expense.

Income Taxes:

Description Wabtec records an estimated liability for income and other taxes based on what it determines will likely be paid in various tax jurisdictions in which it operates in accordance with ASC 740-10 *Accounting for Income Taxes and Accounting for Uncertainty in Income Taxes*.

Judgments and Uncertainties The estimate of our tax obligations are uncertain because management must use judgment to estimate the exposures associated with our various filing positions, as well as realization of our deferred tax assets. ASC 740-10 establishes a recognition and measurement threshold to determine the amount of tax benefit that should be recognized related to uncertain tax positions.

Effect if Actual Results Differ From Assumptions Management uses its best judgment in the determination of these amounts. However, the liabilities ultimately realized and paid are dependent on various matters including the resolution of the tax audits in the various affected tax jurisdictions and may differ from the amounts recorded. An adjustment to the estimated liability would be recorded through income in the period in which new information changes the expected outcome of an uncertain tax position. A deferred tax valuation allowance is provided when it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Revenue Recognition:

Description Revenue is recognized in accordance with ASC 606 *Revenue from Contracts with Customers*. The Company recognizes a portion of its revenues on long-term customer agreements involving the design and production of highly engineered products that require revenue to be recognized over time because these products have no alternative use without significant economic loss and the agreements contain an enforceable right to payment including a reasonable profit margin from the customer in the event of contract termination. Generally, the Company uses an input method for determining the amount of revenue, cost and gross margin to recognize over time for these customer agreements. The input method used for these agreements recognizes revenue based on our efforts to satisfy the performance obligation and includes costs of material and labor, both of which give an accurate representation of the progress made toward complete satisfaction of a particular performance obligation. The Company may also use the output method which recognizes revenue based on direct measurements of the value transferred to the customer.

Judgments and Uncertainties Accounting for long-term customer agreements involves a judgmental process of estimating the total sales and costs for each contract, which results in the development of estimated profit margin percentages. Contract estimates related to long-term projects are based on various assumptions to project the outcome of future events that could span several years. These assumptions include cost of materials, labor availability and productivity, complexity of the work to be performed, and the performance of suppliers, customers and subcontractors that may be associated with the contract. Factors that influence these estimates include inflationary trends, foreign exchange rates, technical and schedule risk, internal and subcontractor performance trends, business volume assumptions, asset utilization, and anticipated labor agreements. Generally, pricing is defined in our contracts but may include an estimate of variable consideration when required by the terms of the individual customer contract. Types of variable consideration that the Company typically has include volume discounts, prompt payment discounts, price escalation clauses, liquidating damages, and performance bonuses.

Effect if Actual Results Differ From Assumptions Should market conditions and customer demands dictate changes to our standard shipping terms, the Company may be impacted by longer than typical revenue recognition cycles. The development of expected contract costs and contract profit margin percentages involves procedures and personnel in all areas that provide financial or production information on the status of contracts. Due to the significance of judgments in the estimation process, it is likely that materially different revenue and cost amounts could be recorded if we used different assumptions or if the underlying circumstances were to change. Changes in underlying assumptions/estimates, inflation or deflation, foreign currency exchange rates, supplier performance, or other circumstances may adversely or positively affect financial performance in future periods. Some of our contracts are expected to be completed in a loss position. Provisions are made currently for estimated losses on uncompleted contracts and are updated as necessary.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

All market risk sensitive instruments were entered into for non-trading purposes.

Interest Rate Risk

In the ordinary course of business, Wabtec is exposed to risks that increases in interest rates may adversely affect funding costs associated with its available variable-rate debt facilities. At December 31, 2022, the Company's interest risk related to variable-rate debt is limited to the amounts borrowed under the multi-currency Revolving Credit Facility. At December 31, 2022 and 2021, the Company had no outstanding variable rate debt.

Foreign Currency Exchange Rate Risk

The Company is exposed to certain risks associated with changes in foreign currency exchange rates to the extent our operations are conducted in currencies other than the U.S. dollar. To reduce the impact of changes in currency exchange rates, the Company has periodically entered into foreign currency forward contracts. Refer to "Financial Derivatives and Hedging Activities" in Notes 2, 17 and 20 of "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this report for more information regarding foreign currency exchange risk and sales by geographic area.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MANAGEMENT'S REPORTS TO WABTEC SHAREHOLDERS

Management's Report on Financial Statements and Practices

The accompanying consolidated financial statements of Westinghouse Air Brake Technologies Corporation and subsidiaries (the "Company") were prepared by Management, which is responsible for their integrity and objectivity. The statements were prepared in accordance with U.S. generally accepted accounting principles and include amounts that are based on Management's best judgments and estimates. The other financial information included in the Form 10-K is consistent with that in the financial statements.

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

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. In order to evaluate the effectiveness of internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, Management has conducted an assessment, including testing, using the criteria in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (COSO). The Company's system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on its assessment, Management has concluded that the Company maintained effective internal control over financial reporting as of December 31, 2022, based on criteria in Internal Control-Integrated Framework issued by the COSO. The effectiveness of the Company's internal control over financial reporting as of December 31, 2022, has been audited by Ernst & Young LLP, independent registered public accounting firm, as stated in their report which is included herein.

Report Of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Westinghouse Air Brake Technologies Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Westinghouse Air Brake Technologies Corporation (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows and shareholders' equity for each of the three years in the period ended December 31, 2022, and the related notes and financial statement schedule listed in the Index at Item 15.(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 15, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter 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.

Over Time Revenue Recognition for Long-Term Contracts

Description of the Matter

As described in Note 2 to the consolidated financial statements, the Company has long-term customer arrangements involving the design and production of highly engineered products that require revenue to be recognized over time. The Company uses input-based measures for determining the amount of revenue, cost and gross margin to recognize over time for these customer arrangements. The input methods used for these arrangements include costs of material and labor. During the year ended December 31, 2022, a material amount of the Company's total revenues were derived from performance obligations that are satisfied over time.

Auditing the Company's measurement of revenue recognized over time on long-term contracts is especially challenging because it involves subjective management assumptions regarding the estimated remaining costs of the long-term contract that could span several years. These assumptions could be impacted by the future cost of materials, labor availability and productivity, complexity of the work to be performed, and the performance of suppliers, customers and subcontractors that may be associated with the contract and may be affected by future market or economic conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process to recognize revenue over time on long-term contracts, including controls over management's review of the significant underlying assumptions described above.

Our audit procedures also included, among others, evaluating the significant assumptions and the accuracy and completeness of the underlying data used in management's calculations. This included, for example, inspection of the executed contracts and testing management's cost estimates by comparing the inputs to the Company's historical data or experience for similar contracts, the performance of sensitivity analysis and the performance of retrospective review analysis of prior management cost estimates to actual costs incurred for completed contracts. In addition, for a sample of contracts, we involved our construction and engineering specialists to assist in our evaluation of management's cost estimates at completion.

/s/ Ernst & Young LLP

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

Pittsburgh, Pennsylvania

February 15, 2023

Report Of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Westinghouse Air Brake Technologies Corporation

Opinion on Internal Control over Financial Reporting

We have audited Westinghouse Air Brake Technologies Corporation's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Westinghouse Air Brake Technologies Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows and shareholders' equity for each of the three years in the period ended December 31, 2022, and the related notes and financial statement schedule listed in the Index at Item 15.(2) and our report dated February 15, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible 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 an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Ernst & Young LLP
Pittsburgh, Pennsylvania
February 15, 2023

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION
CONSOLIDATED BALANCE SHEETS

<i>In millions, except par value</i>	December 31,	
	2022	2021
Assets		
Assets		
Cash, cash equivalents and restricted cash	\$ 541	\$ 473
Accounts receivable	975	1,085
Unbilled accounts receivable	544	392
Inventories, net	2,034	1,689
Other current assets	233	193
Total current assets	4,327	3,832
Property, plant and equipment, net	1,429	1,497
Goodwill	8,508	8,587
Other intangible assets, net	3,402	3,705
Other noncurrent assets	850	833
Total noncurrent assets	14,189	14,622
Total Assets	\$ 18,516	\$ 18,454
Liabilities and Shareholders' Equity		
Liabilities		
Accounts payable	\$ 1,301	\$ 1,012
Customer deposits	772	629
Accrued compensation	300	335
Accrued warranty	215	228
Current portion of long-term debt	251	2
Other accrued liabilities	628	704
Total current liabilities	3,467	2,910
Long-term debt	3,751	4,056
Accrued postretirement and pension benefits	57	77
Deferred income taxes	326	288
Contingent consideration	47	141
Other long term liabilities	721	743
Total Liabilities	8,369	8,215
Commitments and Contingencies (Note 18)		
Equity		
Common stock, \$.01 par value; 500.0 shares authorized and 226.9 shares issued; 181.2 and 185.8 shares outstanding at December 31, 2022 and 2021, respectively	2	2
Additional paid-in capital	7,953	7,916
Treasury stock, at cost, 45.7 and 41.1 shares, at December 31, 2022 and 2021, respectively	(1,769)	(1,306)
Retained earnings	4,577	4,055
Accumulated other comprehensive loss	(661)	(466)
Total Westinghouse Air Brake Technologies Corporation shareholders' equity	10,102	10,201
Noncontrolling interest	45	38
Total Equity	10,147	10,239
Total Liabilities and Equity	\$ 18,516	\$ 18,454

The accompanying notes are an integral part of these statements.

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENTS OF INCOME

	Year Ended December 31,		
	2022	2021	2020
<i>In millions, except per share data</i>			
Net sales:			
Sales of goods	\$ 6,459	\$ 6,205	\$ 6,233
Sales of services	1,903	1,617	1,323
Total net sales	8,362	7,822	7,556
Cost of sales:			
Cost of goods	(4,791)	(4,545)	(4,629)
Cost of services	(1,031)	(908)	(790)
Total cost of sales	(5,822)	(5,453)	(5,419)
Gross profit	2,540	2,369	2,137
Operating expenses:			
Selling, general and administrative expenses	(1,029)	(1,030)	(948)
Engineering expenses	(209)	(176)	(162)
Amortization expense	(291)	(287)	(282)
Total operating expenses	(1,529)	(1,493)	(1,392)
Income from operations	1,011	876	745
Other income and expenses:			
Interest expense, net	(186)	(177)	(199)
Other income, net	29	38	11
Income before income taxes	854	737	557
Income tax expense	(213)	(172)	(145)
Net income	641	565	412
Less: Net (income) loss attributable to noncontrolling interest	(8)	(7)	2
Net income attributable to Wabtec shareholders	\$ 633	\$ 558	\$ 414
Earnings Per Common Share			
Basic			
Net income attributable to Wabtec shareholders	\$ 3.46	\$ 2.96	\$ 2.18
Diluted			
Net income attributable to Wabtec shareholders	\$ 3.46	\$ 2.96	\$ 2.17
Weighted average shares outstanding			
Basic	182.2	187.7	189.9
Diluted	182.8	188.1	190.4

The accompanying notes are an integral part of these statements.

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2022	2021	2020
<i>In millions</i>			
Net income attributable to Wabtec shareholders	\$ 633	\$ 558	\$ 414
Foreign currency translation (loss) gain	(200)	(136)	48
Unrealized (loss) gain on derivative contracts	(5)	(10)	8
Unrealized gain (loss) on pension benefit plans and post-retirement benefit plans	11	21	(14)
Other comprehensive (loss) income before tax	(194)	(125)	42
Income tax (expense) benefit related to components of other comprehensive (loss) income	(1)	(2)	2
Other comprehensive (loss) income, net of tax	(195)	(127)	44
Comprehensive income attributable to Wabtec shareholders	\$ 438	\$ 431	\$ 458

The accompanying notes are an integral part of these statements.

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	December 31,		
	2022	2021	2020
<i>In millions</i>			
Operating Activities			
Net income	\$ 641	\$ 565	\$ 412
Adjustments to reconcile net income to net cash provided by operations:			
Depreciation and amortization	479	491	473
Stock-based compensation expense	41	46	20
Below market intangible amortization	(53)	(50)	(88)
Deferred income taxes	36	88	29
Net loss (gain) on disposal of property, plant and equipment	3	(4)	10
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable and unbilled accounts receivable	(52)	(76)	315
Inventories	(368)	(41)	181
Accounts payable	306	109	(269)
Accrued income taxes	7	(4)	57
Accrued liabilities and customer deposits	108	84	(91)
Other assets and liabilities	(110)	(135)	(265)
Net cash provided by operating activities	1,038	1,073	784
Investing Activities			
Purchase of property, plant and equipment	(149)	(130)	(136)
Acquisitions of businesses, net of cash acquired	(89)	(435)	(40)
Proceeds from disposal of property, plant and equipment	3	25	21
Net cash used for investing activities	(235)	(540)	(155)
Financing Activities			
Proceeds from debt, net of issuance costs	6,087	5,391	3,878
Payments of debt	(6,117)	(5,552)	(4,077)
Repurchase of stock	(473)	(300)	(207)
Cash dividends	(111)	(92)	(93)
Payment of contingent consideration on acquisitions	(101)	(99)	(115)
Other financing activities	7	(1)	(5)
Net cash used for financing activities	(708)	(653)	(619)
Effect of changes in currency exchange rates	(27)	(6)	(15)
Increase (decrease) in cash, cash equivalents and restricted cash	68	(126)	(5)
Cash, cash equivalents and restricted cash, beginning of year	473	599	604
Cash, cash equivalents and restricted cash, end of year	\$ 541	\$ 473	\$ 599

The accompanying notes are an integral part of these statements.

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

<i>In millions, except per share data</i>	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Treasury Stock Shares	Treasury Stock Amount	Retained Earnings	Accumulated Other Comprehensive Loss	Non-controlling Interest	Total
Balance, December 31, 2019	226.9	\$ 2	\$ 7,877	(35.2)	\$ (807)	\$ 3,268	\$ (383)	\$ 37	\$ 9,994
Cash dividends (\$0.48 dividend per share)	—	—	—	—	—	(93)	—	—	(93)
Proceeds from treasury stock issued from the exercise of stock options and other benefit plans, net of tax	—	—	(9)	0.3	4	—	—	—	(5)
Stock based compensation	—	—	17	—	—	—	—	—	17
Net income (loss)	—	—	—	—	—	414	—	(2)	412
Other comprehensive income (loss), net of tax	—	—	—	—	—	—	44	(1)	43
Stock repurchase	—	—	—	(3.1)	(207)	—	—	—	(207)
Other	—	—	(4)	—	—	—	—	(4)	(8)
Balance, December 31, 2020	226.9	2	7,881	(38.0)	(1,010)	3,589	(339)	30	10,153
Cash dividends (\$0.48 dividend per share)	—	—	—	—	—	(92)	—	—	(92)
Proceeds from treasury stock issued from the exercise of stock options and other benefit plans, net of tax	—	—	(6)	0.2	4	—	—	—	(2)
Stock based compensation	—	—	41	—	—	—	—	—	41
Net income	—	—	—	—	—	558	—	7	565
Other comprehensive loss, net of tax	—	—	—	—	—	—	(127)	—	(127)
Stock repurchase	—	—	—	(3.3)	(300)	—	—	—	(300)
Other	—	—	—	—	—	—	—	1	1
Balance, December 31, 2021	226.9	2	7,916	(41.1)	(1,306)	4,055	(466)	38	10,239
Cash dividends (\$0.60 dividend per share)	—	—	—	—	—	(111)	—	—	(111)
Proceeds from treasury stock issued from the exercise of stock options and other benefit plans, net of tax	—	—	(4)	0.4	10	—	—	—	6
Stock based compensation	—	—	41	—	—	—	—	—	41
Net income	—	—	—	—	—	633	—	8	641
Other comprehensive loss, net of tax	—	—	—	—	—	—	(195)	—	(195)
Stock repurchase	—	—	—	(5.0)	(473)	—	—	—	(473)
Other	—	—	—	—	—	—	—	(1)	(1)
Balance, December 31, 2022	226.9	\$ 2	\$ 7,953	(45.7)	\$ (1,769)	\$ 4,577	\$ (661)	\$ 45	\$ 10,147

The accompanying notes are an integral part of these statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BUSINESS

Wabtec is one of the world's largest providers of value-added, technology-based locomotives, equipment, systems, and services for the global freight rail and passenger transit industries as well as the mining, marine and industrial markets. Our highly engineered products, which are intended to enhance safety, improve productivity and reduce maintenance costs for customers, can be found on most locomotives, freight cars, passenger transit cars and buses around the world. Our core products and services are essential in the safe and efficient operation of freight rail and passenger transit vehicles. Wabtec is a global company with operations in over 50 countries and our products can be found in more than 100 countries throughout the world. In 2022, approximately 55% of the Company's net sales came from customers outside the United States.

The unfavorable global economic conditions driven by the impacts of the pandemic, supply chain disruptions and labor shortages, and the Russian invasion of Ukraine continue to have an adverse impact on our operations and business results. During 2020, the pandemic caused temporary plant closures in China, India, Italy, and other countries where outbreaks and stay-at-home orders were most prevalent, which had an adverse impact on our operations and business results. Supply chain disruptions and labor availability have caused component, raw material and chip shortages resulting in an adverse effect on the timing of the Company's revenue generation. Additionally, broad-based inflation, escalation of diesel, utilities, energy, metals and other commodity costs, transportation and logistics costs, labor costs, and foreign currency exchange rate fluctuations all continue to impact our results. The Company has implemented various mitigating actions to lessen the impact of these unfavorable economic conditions including price escalations in long-term contracts, price surcharges, operational efficiencies, cost mitigation efforts and discretionary spend management, strategic sourcing alignments, and accelerating integration synergies where possible, including Integration 2.0 discussed in Note 21. Additionally, the Company has proactively built-up inventory ahead of expected growth, including from new orders signed in 2022, and in response to supply chain challenges to minimize further interruption on customer orders.

For the year ended December 31, 2021, prior to the Russian invasion of Ukraine and the resulting imposition of various sanctions against Russia and Belarus, Wabtec had earnings of approximately \$40 million attributable to customers in Russia, while earnings from customers in Ukraine and Belarus were not significant. As of December 31, 2022 and 2021, Wabtec had approximately \$14 million and \$20 million of assets, respectively, related to Russian operations, which were primarily cash and inventory that are expected to be recoverable. Assets related to Ukraine and Belarus operations are not significant.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation The consolidated financial statements include the accounts of the Company and all subsidiaries that it controls. For consolidated subsidiaries in which the Company's ownership is less than 100%, the outside shareholders' interests are shown as noncontrolling interests. These statements have been prepared in accordance with U.S. generally accepted accounting principles. Sales between subsidiaries are billed at prices consistent with sales to third parties and are eliminated in consolidation.

Cash Equivalents and Restricted Cash Cash equivalents are highly liquid investments purchased with an original maturity of three months or less. Restricted cash includes cash held in escrow that is restricted as to withdrawal or usage.

Allowance for Doubtful Accounts The allowance for doubtful accounts receivable reflects our best estimate of expected losses inherent in our receivable portfolio determined on the basis of historical experience, relevant credit forecast information, changes to customer's solvency and other currently available evidence. The allowance for doubtful accounts was \$28 million and \$32 million as of December 31, 2022 and 2021, respectively.

Inventories Inventories are stated at the lower of cost or net realizable value. Cost is predominantly determined under the first-in, first-out (FIFO) method. Inventory costs include material, labor and overhead.

Property, Plant and Equipment Property, plant and equipment additions are stated at cost. Expenditures for renewals and improvements are capitalized. Expenditures for ordinary maintenance and repairs are expensed as incurred. The Company computes book depreciation principally on the straight-line method. Accelerated depreciation methods are utilized for income tax purposes.

Leasing Arrangements The Company conducts a portion of its operations from leased facilities and finances certain equipment purchases through lease agreements. In those cases in which the lease term approximates the useful life of the leased asset or the lease meets certain other prerequisites, the leasing arrangement is classified as a financing lease. The remaining arrangements are treated as operating leases. Right-of-use lease assets are classified as long-term assets under the caption "Other noncurrent assets" and lease liabilities are classified under the captions "Other accrued liabilities" and "Other long-term liabilities" on the Consolidated Balance Sheets.

Goodwill and Intangible Assets Goodwill and other intangible assets with indefinite lives are not amortized. Other intangibles (with definite lives) are amortized on a straight-line basis over their estimated economic lives. Amortizable intangible assets are reviewed for impairment when indicators of impairment are present. The Company tests goodwill and indefinite-lived intangible assets for impairment at the reporting unit level and at least annually. The Company performs its annual impairment test during the fourth quarter after the annual forecasting process is completed, and also tests for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Periodically, Management of the Company assesses whether or not an indicator of impairment is present that would necessitate an impairment analysis be performed.

Equity Method Investments The Company invests in privately-held companies which are accounted for using the equity method when the Company has the ability to exercise significant influence, but not control, over the investee. Equity method investments are included in "Other noncurrent assets" on the Consolidated Balance Sheets and were \$105 million and \$96 million at December 31, 2022 and 2021, respectively.

Depreciation Expense Depreciation of property, plant and equipment related to the manufacturing of products or services provided is included in Cost of goods or Cost of services. Depreciation of other property, plant and equipment that is not attributable to the manufacturing of products or services provided is included in Selling, general and administrative expenses or Engineering expense to the extent the property, plant, and equipment is used for research and development purposes.

Warranty Costs Warranty costs are accrued based on management's estimates of repair or upgrade costs per unit and historical experience.

Income Taxes Income taxes are accounted for under the liability method. Deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws. The provision for income taxes includes federal, state and foreign income taxes.

Stock-Based Compensation The Company recognizes compensation expense for stock-based compensation based on the grant date fair value recognized ratably over the requisite service period following the date of grant. Compensation expense for incentive stock units is updated as necessary if the number of units expected to vest changes based on the Company's performance.

Financial Derivatives and Hedging Activities In the normal course of business, the Company is exposed to interest rate, commodity price and foreign currency exchange rate fluctuations. At times, the Company limits these risks through the use of derivatives such as cross-currency swaps, foreign currency forward contracts, interest rate swaps, commodity swaps and options. In accordance with the Company's policy, derivatives are only used for hedging purposes. The Company does not use derivatives for trading or speculative purposes. Foreign currency forward contracts are agreements with a counterparty to exchange two distinct currencies at a set exchange rate for delivery on a set date at some point in the future. There is no exchange of funds until the delivery date. At the delivery date, the Company can either take delivery of the currency or settle on a net basis. For further information regarding the foreign currency forward contracts see Note 17.

Foreign Currency Translation Certain of our international operations have determined that the local currency is the functional currency whereas others have determined the U.S. dollar is their functional currency. Assets and liabilities of foreign subsidiaries where the functional currency is the local currency are translated at the rate of exchange in effect on the balance sheet date while income and expenses are translated at the average rates of exchange prevailing during the period. Foreign currency gains and losses resulting from transactions and the translation of financial statements are recorded in the Company's consolidated financial statements based upon the provisions of ASC 830 "Foreign Currency Matters." The effects of currency exchange rate changes on intercompany transactions and balances of a long-term investment nature are accumulated and carried as a component of Accumulated other comprehensive loss. The effects of currency exchange rate changes on transactions that are denominated in a currency other than an entity's functional currency are charged or credited to earnings. Realized gains and losses related to foreign currency exchange are recognized in Other income, net on the Consolidated Statements of Income.

Noncontrolling Interests In accordance with ASC 810, the Company has classified noncontrolling interests as equity on our Consolidated Balance Sheets. Net (income) loss attributable to noncontrolling interests was not material for the years ended December 31, 2022, 2021 and 2020.

Revenue Recognition The Company accounts for Revenue under ASC 606 *Revenue from Contracts with Customers*. This guidance provides a five-step analysis of transactions to determine when and how revenue is recognized and requires entities to recognize revenue at an amount that reflects the consideration to which the Company expects to be entitled in exchange for transferring goods or services to a customer.

A majority of the Company's revenues are derived from performance obligations that are satisfied at a point in time when control passes to the customer which is generally at the time of shipment in accordance with agreed upon delivery terms.

The remaining revenues are earned over time. All fees billed to the customer for shipping and handling are classified as a component of Net sales. All costs associated with shipping and handling are classified as a component of Cost of sales.

The Company also has long-term customer agreements involving the design and production of highly engineered products that require revenue to be recognized over time because these products have no alternative use without significant economic loss, and the agreements contain an enforceable right to payment including a reasonable profit margin from the customer in the event of contract termination. Additionally, the Company has customer agreements involving the creation or enhancement of an asset that the customer controls which also require revenue to be recognized over time. Generally, the Company uses an input method for determining the amount of revenue, cost and gross margin to recognize over time for these customer agreements. The input method used for these agreements recognizes revenue based on our efforts to satisfy the performance obligation and includes costs of material and labor, both of which give an accurate representation of the progress made toward complete satisfaction of a particular performance obligation. The company may also use the output method which recognizes revenue based on direct measurements of the value transferred to the customer. Contract revenues and cost estimates are reviewed and revised periodically throughout the year and adjustments are reflected in the accounting period as such amounts are determined. Additional information with respect to contract assets and liabilities is included in Note 8.

Due to the nature of work required to be performed on the Company's long-term projects, the estimation of total revenue and cost at completion is subject to many variables and requires significant judgment. Contract estimates related to long-term projects are based on various assumptions to project the outcome of future events that could span several years. These assumptions include cost of materials; labor availability and productivity; complexity of the work to be performed; and the performance of suppliers, customers and subcontractors that may be associated with the contract. We have a disciplined process where management reviews the progress of long term-projects periodically throughout the year. As part of this process, management reviews information including key contract matters, progress towards completion, identified risks and opportunities and any other information that could impact the Company's estimates of revenue and costs. After completing this analysis, any adjustments to net sales, cost of goods sold, and the related impact to operating income are recognized as necessary in the period they become known.

Generally, the Company's revenue contains a single performance obligation for each distinct good or service; however, a single contract may have multiple performance obligations comprising multiple promises to customers. When there are multiple performance obligations, revenue is allocated based on the relative stand-alone selling price. Pricing is defined in our contracts on a line item basis and includes an estimate of variable consideration when required by the terms of the individual customer contract. Types of variable consideration the Company typically has include volume discounts, prompt payment discounts, price escalation clauses, liquidating damages, and performance bonuses. Sales returns and allowances are also estimated and recognized in the same period the related revenue is recognized, based upon the Company's experience and future expectations.

Remaining performance obligations represent the allocated transaction price of unsatisfied or partially unsatisfied performance obligations. As of December 31, 2022, the Company's remaining performance obligations were approximately \$22 billion. The Company expects to recognize revenue of approximately 30% of remaining performance obligations over the next 12 months, with the remainder recognized thereafter.

Revolving Receivables Program The Company utilizes a revolving facility to sell certain receivables of the Company and certain of its subsidiaries (the "Originators"). The Originators contribute receivables to our bankruptcy-remote subsidiary, which sells the receivables to a financial institution on a recurring basis in exchange for cash equal to the gross receivables sold. The bankruptcy remote subsidiary is a separate legal entity with its own creditors, and its assets are not available to pay creditors of the Company or any other affiliates of the Company. As customers pay their balances, we transfer additional receivables into the program, which could result in our gross receivables sold being higher or lower than collections reinvested for any applicable period. The sold receivables are fully guaranteed by our bankruptcy-remote subsidiary, which holds additional receivables that are pledged as collateral under this facility. The Company has agreed to guarantee the performance of the Originators respective obligations under the revolving agreement. Neither the Company (except for the bankruptcy-remote consolidated subsidiary referenced above) nor the Originators guarantees the collectability of the receivables under the revolving agreements.

Since the original program was entered into in May of 2020, the Company has completed several amendments to the agreed upon transfer limit. During 2020, the Company could transfer up to \$150 million of certain receivables; during 2021, the Company could transfer up to \$200 million of certain receivables; during 2022, the Company could transfer up to \$350 million of certain receivables.

At December 31, 2022, and 2021 the bankruptcy-remote subsidiary held receivables of \$458 million and \$324 million, respectively, which are included in the Company's Consolidated Balance Sheets. The receivables held by the bankruptcy-remote subsidiary collateralize the outstanding receivables sold, which was \$80 million and \$20 million at December 31, 2022 and 2021, respectively. The transfers are recorded at the fair value of the proceeds received and obligations assumed less derecognized receivables. No obligation was recorded at December 31, 2022 or 2021 as the estimated expected credit losses on

receivables sold is insignificant. Our maximum exposure to loss related to these receivables transferred is limited to the amount outstanding.

The following table sets forth a summary of receivables sold:

<i>In millions</i>	Twelve Months Ended December 31,		
	2022	2021	2020
Gross receivables sold/cash proceeds received	\$1,761	\$1,319	\$852
Collections reinvested under revolving receivables agreement	(1,701)	(1,372)	(779)
Net cash proceeds received (remitted)	\$60	\$(53)	\$73

Pre-Production Costs Certain pre-production costs relating to long-term production and supply contracts have been deferred and will be recognized over the life of the contracts. Deferred pre-production costs were \$64 million and \$86 million at December 31, 2022 and 2021, respectively.

Preferred Stock The Company's authorized capital stock includes 1,000,000 shares of preferred stock. The Board of Directors has the authority to issue the preferred stock and to fix the rights and preferences, which would be superior to those of the common stock. At December 31, 2022 and 2021 there was no preferred stock issued or outstanding.

Significant Customers and Concentrations of Credit Risk The Company's trade receivables are primarily from rail and transit industry original equipment manufacturers, Class I railroads, railroad carriers and commercial companies that utilize rail cars in their operations, such as utility and chemical companies, as well as companies in the mining, marine and industrial markets. No one customer accounted for more than 10% of the Company's consolidated net sales in 2022, 2021 or 2020.

Reclassifications Certain prior year amounts have been reclassified, where necessary, to conform to the current year presentation.

Use of Estimates The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Actual amounts could differ materially from the estimates. On an ongoing basis, Management reviews its estimates based on currently available information. Changes in facts and circumstances may result in revised estimates.

Accounting Standards Recently Issued

In September 2022, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2022-04, *Liabilities - Supplier Finance Programs (Subtopic 405-50): Disclosure of Supplier Finance Obligations*. The amendments in this update outline specific quantitative and qualitative disclosure requirements for entities that use supplier finance programs in connection with the purchase of goods or services. The amendments in this update do not affect the recognition, measurement, or financial statement presentation of obligations covered by supplier finance programs. The amendments in this update will be effective for Wabtec's reporting periods beginning January 1, 2023, except for the amendment on roll forward information which will be effective for reporting periods beginning January 1, 2024. The amendments will require increased interim and annual disclosures be provided on current and comparable reporting periods presented in annual and interim company filings.

In October 2021, the FASB issued ASU 2021-08, *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*. The amendments in this update provide specific guidance on how to recognize and measure acquired contract assets and contract liabilities from revenue contracts in a business combination and address how to determine whether a contract liability is recognized by the acquirer in a business combination. The amendments in this update will be effective for Wabtec on January 1, 2023 and will be applied prospectively to business combinations occurring on or after the effective date.

3. ACQUISITIONS

During 2022, the Freight Segment made three strategic acquisitions for a combined purchase price of \$89 million. Two of the acquisitions are reported in the Digital Electronics product line and one is reported in the Services product line. Each of the acquisitions in 2022 are individually and collectively immaterial. The Company also made acquisitions in prior periods not listed below which are also individually and collectively immaterial.

Nordco

On March 31, 2021, the Company acquired Nordco, a leading North American supplier of new, rebuilt and used maintenance of way equipment. Nordco's products and services portfolio includes mobile railcar movers and ultrasonic rail flaw detection technologies. The purchase price paid for 100% ownership of Nordco was approximately \$410 million.

The following table summarizes the fair value of the Nordco assets acquired and liabilities assumed:

In millions

Assets acquired	
Cash and cash equivalents	\$ 5
Accounts receivable	23
Inventory	34
Other current assets	2
Property, plant and equipment	17
Goodwill	215
Other intangible assets	168
Other noncurrent assets	12
Total assets acquired	476
Liabilities assumed	
Current liabilities	20
Noncurrent liabilities	46
Total liabilities assumed	66
Net assets acquired	\$ 410

The fair values of the assets acquired and liabilities assumed were determined using the income, cost and market approaches. Discounted cash flow models were used to estimate the fair values of acquired intangibles. The fair value measurements were primarily based on significant inputs that are not observable in the market and are considered Level 3 in the fair value hierarchy. Intangible assets acquired include customer relationships and acquired technology that are subject to amortization, and trade names that were assigned an indefinite life and are not subject to amortization. Contingent liabilities assumed as part of the transaction were not material.

Goodwill was calculated as the difference between the acquisition date fair value of the consideration transferred and the fair value of the net assets acquired, and represents the assembled workforce and the future economic benefits, including synergies, that are expected to be achieved as a result of the acquisition. The purchased goodwill is not expected to be deductible for tax purposes. The results of this business since the date of acquisition are reported within the Services product line of the Freight Segment. The pro forma impact on Wabtec's sales and results of operations, including the pro forma effect of events that are directly attributable to the acquisition, was not significant.

4. SUPPLEMENTAL CASH FLOW DISCLOSURES

	Year Ended December 31,		
	2022	2021	2020
<i>In millions</i>			
Interest paid during the year	\$ 179	\$ 164	\$ 174
Income taxes paid during the year, net of amount refunded	\$ 157	\$ 123	\$ 129
Business acquisitions:			
Fair value of assets acquired	\$ 128	\$ 507	\$ 70
Liabilities assumed	38	68	35
Non-controlling interest acquired	—	(1)	(6)
Cash paid	90	440	41
Less: Cash acquired	(1)	(5)	(1)
Net cash paid	\$ 89	\$ 435	\$ 40

At December 31, 2022, Wabtec had restricted cash of \$7 million, primarily from cash in escrow related to a 2022 acquisition.

5. INVENTORIES

The components of inventory, net of reserves, were:

<i>In millions</i>	December 31,	
	2022	2021
Raw materials	\$ 878	\$ 757
Work-in-progress	515	316
Finished goods	641	616
Total inventories	\$ 2,034	\$ 1,689

6. PROPERTY, PLANT & EQUIPMENT

The major classes of depreciable assets are as follows:

<i>In millions</i>	December 31,	
	2022	2021
Machinery and equipment	\$ 1,474	\$ 1,433
Buildings and improvements	783	785
Land and improvements	100	96
Construction in progress	122	89
Property, plant and equipment	2,479	2,403
Less: accumulated depreciation	(1,050)	(906)
Property, plant and equipment, net	\$ 1,429	\$ 1,497

The estimated useful lives of property, plant and equipment are as follows:

	Years
Land improvements	10 to 20
Building and improvements	20 to 40
Machinery and equipment	3 to 15

Depreciation expense was \$182 million, \$198 million, and \$183 million for 2022, 2021 and 2020, respectively.

7. GOODWILL AND INTANGIBLE ASSETS

Goodwill and indefinite lived intangible assets are reviewed annually during the fourth quarter for impairment. For 2022, the Company elected to proceed directly to the quantitative impairment test for all reporting units with goodwill. The discounted cash flow method and the market approach were used to estimate the fair value of each reporting unit using a

weighting of 75% and 25%, respectively. The discounted cash flow model requires several assumptions including future sales growth, EBIT (earnings before interest and taxes) margins, capital expenditures, a discount rate and a terminal revenue growth rate (the revenue growth rate for the period beyond the years forecasted by the reporting units) for each reporting unit. The market approach requires several assumptions including EBITDA (earnings before interest, taxes, depreciation and amortization) multiples for comparable companies that operate in the same markets as the Company's reporting units. For 2022, the discounted cash flow method was given more weight compared to the market approach due to variables between the operations of the guideline companies used in the analysis and Wabtec's operations, such as different reporting unit sizes, growth and business characteristics. However, both valuations resulted in a conclusion that the estimated fair value of all three of the Company's reporting units was in excess of their respective carrying value, which resulted in a conclusion that no impairment existed.

Additionally, the Company proceeded directly to the quantitative impairment test for certain trade names with indefinite lives. The fair value of all material trade names subject to the quantitative impairment test exceeded its respective carrying value, resulting in a conclusion that no impairment existed. For trade names not subject to the quantitative testing, the Company elected to perform a qualitative trade name impairment assessment and determined from the qualitative assessment that it was not more likely than not that the estimated fair values of the trade names were less than their carrying values; therefore, no further analysis was required. In assessing the qualitative factors to determine whether it is more likely than not that the fair value of a trade name is less than its carrying amount, the Company assessed relevant events and circumstances that may impact the fair value and the carrying amount of the trade name. The identification of relevant events and circumstances and how these may impact a trade name's fair value or carrying amount involve significant judgments and assumptions. The judgment and assumptions include the identification of macroeconomic conditions, industry and market considerations, cost factors, overall financial performance, Wabtec specific events, share price trends and making the assessment on whether each relevant factor will impact the impairment test positively or negatively and the magnitude of any such impact.

The change in the carrying amount of goodwill by segment is as follows:

<i>In millions</i>	Freight Segment	Transit Segment	Total
Balance at December 31, 2020	\$ 6,872	\$ 1,613	\$ 8,485
Additions	214	15	229
Foreign currency impact	(13)	(114)	(127)
Balance at December 31, 2021	\$ 7,073	\$ 1,514	\$ 8,587
Additions	35	—	35
Foreign currency impact	(23)	(91)	(114)
Balance at December 31, 2022	<u>\$ 7,085</u>	<u>\$ 1,423</u>	<u>\$ 8,508</u>

As of December 31, 2022 and 2021, the Company's trade names had a net carrying amount of \$602 million and \$635 million, respectively, and the Company believes these intangibles have indefinite lives, with the exception of the right to use the GE Transportation trade name, to which the Company has an original useful life of 5 years.

Intangible assets of the Company, other than goodwill and trade names, consist of the following:

<i>In millions</i>	December 31, 2022			December 31, 2021		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Backlog	\$ 1,425	\$ (415)	\$ 1,010	\$ 1,423	\$ (309)	\$ 1,114
Customer relationships	1,274	(362)	912	1,310	(331)	979
Acquired technology	1,273	(395)	878	1,311	(334)	977
Total	<u>\$ 3,972</u>	<u>\$ (1,172)</u>	<u>\$ 2,800</u>	<u>\$ 4,044</u>	<u>\$ (974)</u>	<u>\$ 3,070</u>

The remaining weighted average useful lives of backlog, customer relationships and acquired technology were 9 years, 16 years and 9 years, respectively. The backlog intangible asset primarily consists of in-place long-term service agreements acquired by the Company in conjunction with the acquisition of GE Transportation. Amortization expense for intangible assets was \$291 million, \$287 million, and \$282 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Estimated amortization expense for the five succeeding years is as follows (in millions):

2023	\$	292
2024	\$	282
2025	\$	266
2026	\$	261
2027	\$	257

8. CONTRACT ASSETS AND CONTRACT LIABILITIES

Contract assets include unbilled amounts resulting from sales under long-term contracts where revenue is recognized over time and revenue exceeds the amount that can be billed to the customer based on the terms of the contract. The current portion of the contract assets are classified as current assets under the caption "Unbilled accounts receivable" while the noncurrent contract assets are classified as other assets under the caption "Other noncurrent assets" on the Consolidated Balance Sheets. Noncurrent contract assets were \$162 million and \$153 million at December 31, 2022 and 2021, respectively. Included in noncurrent contract assets are certain costs that are specifically related to a contract, however, do not directly contribute to the transfer of control of the tangible product being created, such as pre-production costs. The Company has elected to use the practical expedient and not consider unbilled amounts anticipated to be paid within one year as significant financing components.

Contract liabilities include customer deposits that are made prior to the incurrence of costs related to a newly agreed upon contract and advanced customer payments that are in excess of revenue recognized. The current portion of contract liabilities are classified as current liabilities under the caption "Customer deposits" while the noncurrent contract liabilities are classified as noncurrent liabilities under the caption "Other long-term liabilities" on the Consolidated Balance Sheets. Noncurrent contract liabilities were \$86 million and \$88 million at December 31, 2022 and 2021, respectively. These contract liabilities are not considered a significant financing component because they are used to meet working capital demands that can be higher in the early stages of a contract and revenue associated with the contract liabilities is expected to be recognized within one year. Contract liabilities also include provisions for estimated losses from uncompleted contracts. Provisions for loss contracts were \$98 million and \$107 million at December 31, 2022 and 2021, respectively. These provisions for estimated losses are classified as current liabilities and included within the caption "Other accrued liabilities" on the Consolidated Balance Sheets.

The following table reconciles the changes in the Company's contract assets and liabilities as follows:

<i>In millions</i>	Contract Assets	
	2022	2021
Balance at beginning of year	\$ 545	\$ 544
Acquisitions	28	—
Recognized in current year	730	617
Reclassified to accounts receivable	(581)	(602)
Foreign currency impact	(16)	(14)
Balance at end of year	\$ 706	\$ 545

<i>In millions</i>	Contract Liabilities	
	2022	2021
Balance at beginning of year	\$ 824	\$ 832
Acquisitions	13	2
Recognized in current year	1,067	740
Amounts in beginning balance reclassified to revenue	(410)	(463)
Current year amounts reclassified to revenue	(528)	(273)
Foreign currency impact	(10)	(14)
Balance at end of year	\$ 956	\$ 824

9. LONG-TERM DEBT

Long-term debt consisted of the following:

<i>In millions</i>	Effective Interest Rate	Face Value	December 31,			
			2022		2021	
			Book Value	Fair Value ¹	Book Value	Fair Value ¹
Restated Credit Agreement:						
Revolving Credit Facility	3.5 %	N/A	\$ —	\$ —	\$ —	\$ —
Senior Notes:						
4.375% Senior Notes, due 2023	4.5 %	\$ 250	250	248	250	260
4.15% Senior Notes, due 2024	4.6 %	\$ 725	723	714	747	796
3.20% Senior Notes, due 2025	3.4 %	\$ 500	498	471	497	523
3.45% Senior Notes, due 2026	3.5 %	\$ 750	749	699	749	795
1.25% Senior Notes (EUR), due 2027	1.5 %	€ 500	529	455	560	574
4.70% Senior Notes, due 2028	5.0 %	\$ 1,250	1,244	1,201	1,243	1,423
Other Borrowings			9	13	12	12
Total			4,002	3,801	4,058	4,383
Less: current portion			(251)	(249)	(2)	(2)
Long-term portion			\$ 3,751	\$ 3,552	\$ 4,056	\$ 4,381

1. See Note 17 for information on the fair value measurement of the Company's long-term debt.

Variances between Face Value and Book Value are the result of unamortized discounts and debt issuance costs. Amortization of discounts and debt issuance fees are included in the calculation of Effective Interest Rate.

The Company borrows and repays against the multi-currency Revolving Credit Facility for added flexibility in liquidity to manage cash during the operating cycle. The proceeds from borrowing and the repayments are included within the Financing Activities section of the Consolidated Statements of Cash Flows.

As of December 31, 2022, the annual repayment requirements for debt obligations are as follows:

<i>In millions</i>	
2023	\$ 251
2024	737
2025	500
2026	750
2027	535
Thereafter	1,250
Total	\$ 4,023

For those debt securities that have a premium or discount at the time of issuance, the Company amortizes the amount through interest expense based on the maturity date or the first date the holders may require the Company to repurchase the debt securities, if applicable. A premium would result in a decrease in interest expense, and a discount would result in an increase in interest expense in future periods. Additionally, the Company has debt issuance costs related to certain financing transactions which are also amortized through interest expense. As of December 31, 2022 and 2021, the Company had total unamortized debt issuance costs and discounts of \$21 million and \$23 million, respectively. At December 31, 2022, the weighted average interest rate on the Company's available variable debt facilities under the Restated Credit Agreement was 5.8%.

Credit Agreements

Revolving Credit Agreement

On June 8, 2018, the Company entered into a credit agreement ("Original Credit Agreement"), consisting of (i) term loans denominated in euros and U.S. dollars ("Term Loans") and (ii) a multi-currency revolving loan facility, providing for an equivalent in U.S. dollars of up to \$1.2 billion. On August 15, 2022, the Company entered into a new unsecured credit agreement ("Restated Credit Agreement"), which amended, restated and replaced the Original Credit Agreement. The Restated Credit Agreement is with a syndicate of lenders and provides for borrowings consisting of (i) a multi-currency revolving credit facility, providing for an equivalent in U.S. dollars of up to \$1.5 billion (the "Revolving Credit Facility") and (ii) a new \$250 million delayed draw term loan facility (the "Delayed Draw Term Loan"), all pursuant to the terms and conditions of the Restated Credit Agreement (which are substantially similar with the terms of the Original Credit Agreement). The Restated

Credit Agreement allows the Company to request, at prevailing market rates, an aggregate amount not to exceed \$750 million, (a) increases to the borrowing commitments under the Revolving Credit Facility and/or (b) new incremental term loan commitments. The agreement contains affirmative, negative and financial covenants, and events of default customary for facilities of this type.

The Revolving Credit Facility matures on August 15, 2027. The Delayed Draw Term Loan is available for borrowings until February 15, 2024 and any borrowings under the Delayed Draw Term Loan will mature on August 15, 2027. Amounts borrowed and repaid under the Delayed Draw Term Loan may not be reborrowed. The applicable interest rate for borrowings under the Restated Credit Agreement includes a base rate (per the Interest Election terms of the agreement) plus an interest rate spread up to 1.75% based on the lower of the pricing corresponding to (i) the Company's financial leverage or (ii) the Company's public rating. Obligations under the Restated Credit Agreement have been guaranteed by certain of the Company's subsidiaries.

Under the Restated Credit Agreement, the Company has agreed to maintain an Interest Coverage Ratio of at least 3.0 to 1.0, and a Leverage Ratio not to exceed 3.5 to 1.0. The Interest Coverage Ratio is defined as EBITDA (earnings before interest, taxes, depreciation, and amortization) to Interest Expense for the four quarters then ended. The Leverage Ratio is defined as Net Debt as of the last day of such fiscal quarter to EBITDA for the four quarters then ended. Additionally, the Company may submit a request for an increased maximum Leverage Ratio in contemplation of a Material Acquisition. All terms are as defined in the Restated Credit Agreement.

The Company was in compliance with all financial covenants in the Restated Credit Agreement as of December 31, 2022.

The following table presents availability under the Restated Credit Agreement as of December 31, 2022:

<i>(In millions)</i>	Revolving Credit Facility	
Maximum Revolving Credit Facility Availability	\$	1,500
Delayed Draw Term Loan		250
Outstanding Borrowings		—
Letters of Credit Under Credit Agreement		(3)
Current Availability	\$	1,747

364-Day Facility

During 2020 and 2021 the Company utilized a \$600 million 364 day credit facility ("364 Day Facility") with a group of banks which included a \$144 million revolving credit facility and a \$456 million term loan. On June 3, 2021, the Company repaid all outstanding borrowings and related interest, effectively retiring the facility.

Senior Notes

The Company or its subsidiaries may issue senior notes from time to time. These notes are comprised of our 4.375% Senior Notes due 2023 (the "2023 Notes"), 4.15% Senior Notes due 2024 (the "2024 Notes"), 3.20% Senior Notes due 2025 (the "2025 Notes"), 3.45% Senior Notes due 2026 (the "2026 Notes"), 1.25% Senior Notes (EUR) due 2027 (the "Euro Notes" discussed below), and 4.70% Senior Notes due 2028 (the "2028 Notes"). The 2023 Notes, 2024 Notes, 2025 Notes, 2026 Notes and 2028 Notes are the "US Notes", and collectively with the Euro Notes, the "Senior Notes." Interest on the US Notes is payable semi-annually and interest on the Euro Notes is paid annually. Each series of the Senior Notes may be redeemed any time in whole or from time to time in part in accordance with the provisions of the indenture, under which such series of notes was issued. Each of the Senior Notes may be redeemed at a redemption price of 100% of the principal amount plus a specified make-whole premium and accrued interest. The US Notes and the Company's guarantee of the Euro Notes are senior unsecured obligations of the Company and rank pari passu with all existing and future senior debt and senior to all existing and future subordinated indebtedness of the Company.

During the second quarter of 2022, the Company redeemed \$25 million of principal from the 2024 Notes plus a premium and the related accrued interest.

On June 3, 2021, Wabtec Transportation Netherlands B.V. ("Wabtec Netherlands") issued €500 million of 1.25% Senior Notes due in 2027, which are fully and unconditionally guaranteed by the Company. The Euro Notes were issued at 99.267% of face value. Interest on the Euro Notes accrues at a rate of 1.25% per annum and is payable annually beginning December 3, 2021. The Company incurred approximately \$4 million of deferred financing costs related to the issuance of the Euro Notes for total net proceeds of approximately \$599 million after consideration of the discount.

On June 29, 2020, the Company issued \$500 million of 3.20% Senior Notes due in 2025 (the "2025 Notes"). The 2025 Notes were issued at 99.892% of face value. Interest on the 2025 Notes accrues at a rate of 3.20% per annum and is payable

semi-annually on June 15 and December 15 of each year beginning December 15, 2020. The proceeds were used to redeem outstanding variable rate debt. The Company incurred \$2 million of deferred financing costs related to the issuance of the 2025 Notes.

The indentures under which the Senior Notes were issued contain covenants and restrictions which limit, subject to certain exceptions, certain sale and leaseback transactions with respect to principal properties, the incurrence of secured debt without equally and ratably securing the Senior Notes, and certain merger and consolidation transactions. The covenants do not require the Company to maintain any financial ratios or specified levels of net worth or liquidity. The US Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured basis by each of the Company's subsidiaries that is a guarantor under the Senior Credit Facility. The Euro Notes were issued by Wabtec Netherlands and are fully and unconditionally guaranteed by the Company.

The Company is in compliance with the restrictions and covenants in the indentures under which the Senior Notes were issued and expects that these restrictions and covenants will not be any type of limiting factor in executing our operating activities.

Cash Pooling

Wabtec aggregates the Company's domestic cash position on a daily basis. Outside the United States, the Company uses cash pooling arrangements with banks to help manage our liquidity requirements. In these pooling arrangements, Wabtec subsidiary "Participants" agree with a single bank that the cash balances of any of the pool Participants with the bank will be subject to a full right of set-off against amounts other Participants owe the bank, and the bank provides for overdrafts as long as the net overdraft balance for all Participants does not exceed an agreed-upon level. Typically, each Participant pays interest on outstanding overdrafts and receives interest on cash balances. The Company's Consolidated Balance Sheets reflect cash, net of bank overdrafts, under all pooling arrangements.

Letters of Credit and Bank Guarantees

In the ordinary course of its business, the Company arranges for certain types of bank guarantees and letters of credit, such as performance bonds, bid bonds and financial guarantees, that are issued by certain banks and insurance companies to support customer contracts. The outstanding amount, including the letters of credit issued under the credit facility, was \$865 million and \$791 million at December 31, 2022 and 2021, respectively.

10. EMPLOYEE BENEFIT PLANS

Defined Benefit Pension Plans

The Company sponsors defined benefit pension plans that cover certain U.S. and international employees, primarily United Kingdom, Canadian and German employees, which provide benefits of stated amounts for each year of service of the employee. The Company uses a December 31 measurement date for the plans.

The following tables provide information regarding the Company's significant defined benefit pension plans summarized by U.S. and international components.

Obligations and Funded Status

<i>In millions</i>	U.S.		International	
	2022	2021	2022	2021
Change in projected benefit obligation				
Obligation at beginning of year	\$ (39)	\$ (43)	\$ (356)	\$ (385)
Service cost	—	—	(3)	(4)
Interest cost	(1)	(1)	(6)	(4)
Employee contributions	—	—	(1)	(1)
Plan settlements, curtailments and amendments	—	—	1	1
Benefits paid	3	3	15	13
Actuarial gain	8	2	86	15
Effect of currency rate changes	—	—	28	9
Obligation at end of year	<u>\$ (29)</u>	<u>\$ (39)</u>	<u>\$ (236)</u>	<u>\$ (356)</u>
Change in plan assets				
Fair value of plan assets at beginning of year	\$ 40	\$ 36	\$ 307	\$ 305
Actual return on plan assets	(6)	2	(72)	11
Employer contributions	—	5	6	11
Employee contributions	—	—	1	1
Benefits paid	(3)	(3)	(15)	(13)
Settlements and other	—	—	(1)	(3)
Effect of currency rate changes	—	—	(25)	(5)
Fair value of plan assets at end of year	<u>\$ 31</u>	<u>\$ 40</u>	<u>\$ 201</u>	<u>\$ 307</u>
Funded status				
Fair value of plan assets	\$ 31	\$ 40	\$ 201	\$ 307
Benefit obligations	(29)	(39)	(236)	(356)
Funded status	<u>\$ 2</u>	<u>\$ 1</u>	<u>\$ (35)</u>	<u>\$ (49)</u>
Amounts recognized in the statement of financial position consist of:				
Noncurrent assets	\$ 2	\$ 1	\$ 13	\$ 17
Current liabilities	—	—	(2)	(2)
Noncurrent liabilities	—	—	(46)	(64)
Net amount recognized	<u>\$ 2</u>	<u>\$ 1</u>	<u>\$ (35)</u>	<u>\$ (49)</u>
Amounts recognized in Accumulated other comprehensive loss, before tax at December 31, consist of:				
Prior service cost	—	—	(1)	(1)
Net actuarial loss	(14)	(16)	(59)	(70)
Net amount recognized	<u>\$ (14)</u>	<u>\$ (16)</u>	<u>\$ (60)</u>	<u>\$ (71)</u>

The aggregate accumulated benefit obligation for the U.S. pension plans was \$28 million and \$38 million as of December 31, 2022 and 2021, respectively. The aggregate accumulated benefit obligation for the international pension plans was \$227 million and \$345 million as of December 31, 2022 and 2021, respectively.

<i>In millions</i>	International	
	2022	2021
Information for pension plans with accumulated benefit obligations in excess of Plan assets:		
Projected benefit obligation	\$ (175)	\$ (107)
Accumulated benefit obligation	(169)	(97)
Fair value of plan assets	129	41
Information for pension plans with projected benefit obligations in excess of plan assets:		
Projected benefit obligation	\$ (180)	\$ (112)
Accumulated benefit obligation	(172)	(101)
Fair value of plan assets	133	45

Components of Net Periodic Benefit Costs

<i>In millions</i>	U.S.			International		
	2022	2021	2020	2022	2021	2020
Service cost	\$ —	\$ —	\$ —	\$ 3	\$ 4	\$ 4
Interest cost	1	1	1	6	4	6
Expected return on plan assets	(1)	(1)	(1)	(12)	(13)	(12)
Amortization of net loss	1	1	1	2	4	3
Settlement and curtailment losses recognized	—	—	—	(1)	1	—
Net periodic benefit cost (income)	<u>\$ 1</u>	<u>\$ 1</u>	<u>\$ 1</u>	<u>\$ (2)</u>	<u>\$ —</u>	<u>\$ 1</u>

Interest cost is recorded in Interest expense, net on the Consolidated Statements of Income. Expected return on plan assets, Amortization of net loss, and Settlement and curtailment losses recognized are recorded within Other income (expense), net on the Consolidated Statements of Income. Service cost is considered a component of employee compensation and is recorded within Cost of sales or Selling, General and administrative expenses depending on the plan participants relative job function.

Amounts recognized in Other comprehensive income during 2022 for other changes in plan assets and benefit obligations are as follows:

<i>In millions</i>	U.S.	International
Net gain arising during the year	\$ (2)	\$ (4)
Effect of exchange rates and other	—	(7)
Total benefit recognized in Other comprehensive income	<u>\$ (2)</u>	<u>\$ (11)</u>
Total net benefit recognized in Net periodic benefit cost and Other comprehensive income	<u>\$ (1)</u>	<u>\$ (13)</u>

The weighted average assumptions in the following table represent the rates used to develop the actuarial present value of the projected benefit obligation for the year listed.

	U.S.			International		
	2022	2021	2020	2022	2021	2020
Discount rate	5.58 %	2.87 %	2.47 %	4.77 %	1.97 %	1.39 %
Expected return on plan assets	3.80 %	5.00 %	5.35 %	4.25 %	4.27 %	4.43 %
Rate of compensation increase	3.00 %	3.00 %	3.00 %	2.78 %	2.70 %	2.65 %

The discount rate is based on settling the pension obligation with high grade, high yield corporate bonds, and the rate of compensation increase is based on actual experience. The expected return on plan assets is based on historical performance as well as expected future rates of return on plan assets considering the current investment portfolio mix and the long-term investment strategy.

The amounts of net actuarial loss and prior service cost included in other comprehensive loss expected to be recognized as components of periodic benefit costs in 2023 are not material.

Pension Plan Assets

The Company has established formal investment policies for the assets associated with our pension plans. Objectives include maximizing long-term return at acceptable risk levels and diversifying among asset classes. Asset allocation targets are based on periodic asset liability study results which help determine the appropriate investment strategies. The investment policies permit variances from the targets within certain parameters. The plan assets consist primarily of equity security funds, debt security funds, insurance contracts, and temporary cash and cash equivalent investments. The assets held in these funds are generally actively managed and are valued at the net asset value per share multiplied by the number of shares held as of the measurement date. (See Note 17 “Fair Value Measurement” included herein). Plan assets by asset category at December 31, 2022 and 2021 are as follows:

<i>In millions</i>	U.S.		International	
	2022	2021	2022	2021
Pension Plan Assets				
Equity security funds	\$ 4	\$ 10	\$ 44	\$ 87
Debt security funds	25	27	131	194
Insurance contracts	—	—	11	15
Cash and cash equivalents and other	2	3	15	11
Fair value of plan assets	<u>\$ 31</u>	<u>\$ 40</u>	<u>\$ 201</u>	<u>\$ 307</u>

The U.S. plan has a target asset allocation of 13% equity securities and 87% debt securities. The International plan has a target asset allocation of 11% equity securities, 24% debt securities and 65% in other investments. Investment policies are determined by the respective Plan’s Pension Committee and set forth in its Investment Policy. Rebalancing of the asset allocation occurs on a quarterly basis.

The following tables summarize our pension plan assets measured at fair value on a recurring basis by fair value hierarchy level (See Note 17):

<i>In millions</i>	December 31, 2022				
	NAV	Level 1	Level 2	Level 3	Total
US:					
Equity	\$ —	\$ 4	\$ —	\$ —	\$ 4
Debt Securities	—	5	20	—	25
Cash and cash equivalents	—	2	—	—	2
International:					
Equity	5	13	26	—	44
Debt Securities	—	4	127	—	131
Insurance Contracts	—	—	3	8	11
Cash and cash equivalents and other	—	4	11	—	15
Total	<u>\$ 5</u>	<u>\$ 32</u>	<u>\$ 187</u>	<u>\$ 8</u>	<u>\$ 232</u>

<i>In millions</i>	December 31, 2021				
	NAV	Level 1	Level 2	Level 3	Total
US:					
Equity	\$ —	\$ 10	\$ —	\$ —	\$ 10
Debt Securities	—	15	12	—	27
Cash and cash equivalents	—	3	—	—	3
International:					
Equity	7	20	60	—	87
Debt Securities	—	4	190	—	194
Insurance Contracts	—	—	5	10	15
Cash and cash equivalents and other	—	6	5	—	11
Total	<u>\$ 7</u>	<u>\$ 58</u>	<u>\$ 272</u>	<u>\$ 10</u>	<u>\$ 347</u>

There were no material changes to the Level 3 assets during 2022 and 2021.

Cash Flows

The Company's funding methods are based on governmental requirements and differ from those methods used to recognize pension expense. The Company expects to contribute \$2 million to the international pension plan and does not expect to make a contribution to the U.S. pension plan during 2023.

Benefit payments expected to be paid to plan participants are as follows:

<i>In millions</i>	U.S.		International	
Year ended December 31,				
2023	\$	3	\$	14
2024	\$	3	\$	14
2025	\$	3	\$	15
2026	\$	3	\$	15
2027	\$	3	\$	17
2028 through 2032	\$	12	\$	87

Defined Contribution Plans

The Company participates in certain defined contribution plans. Costs of approximately \$55 million were recognized during 2022, 2021 and 2020 each year. The 401(k) savings plan is a participant directed defined contribution plan that holds shares of the Company's stock as one of the investment options. At December 31, 2022 and 2021, the plan held on behalf of its participants approximately 371,000 shares with a market value of \$37 million, and approximately 387,000 shares with a market value of \$36 million, respectively.

11. INCOME TAXES

The Company is responsible for filing consolidated U.S. federal, foreign and combined, unitary or separate state income tax returns. The Company is responsible for paying the taxes relating to such returns, including any subsequent adjustments resulting from the redetermination of such tax liabilities by the applicable taxing authorities.

The components of the income before income taxes for the Company's domestic and foreign operations for the years ended December 31 are provided below:

<i>In millions</i>	For the year ended December 31,		
	2022	2021	2020
Domestic	\$ 372	\$ 253	\$ 78
Foreign	482	484	479
Income before income taxes	<u>\$ 854</u>	<u>\$ 737</u>	<u>\$ 557</u>

The consolidated provision for income taxes included in the Consolidated Statements of Income consisted of the following:

<i>In millions</i>	For the year ended December 31,		
	2022	2021	2020
Current tax expense (benefit)			
Federal	\$ 37	\$ (81)	\$ 6
State	3	27	17
Foreign	137	138	93
	<u>177</u>	<u>84</u>	<u>116</u>
Deferred tax expense (benefit)			
Federal	29	87	36
State	—	10	(2)
Foreign	7	(9)	(5)
	<u>36</u>	<u>88</u>	<u>29</u>
Total provision	<u>\$ 213</u>	<u>\$ 172</u>	<u>\$ 145</u>

A reconciliation of the United States federal statutory income tax rate to the effective income tax rate on operations for the years ended December 31 is provided below:

<i>In millions</i>	For the year ended December 31,		
	2022	2021	2020
U.S. federal statutory rate	21.0 %	21.0 %	21.0 %
State taxes	2.0	0.3	2.6
Foreign	3.8	3.3	4.4
Research and development credit	(0.8)	(0.8)	(1.3)
U.S. net operating loss carryback	—	(3.4)	—
Changes in valuation allowance	(2.0)	3.0	(2.0)
U.S. tax reform provision	0.1	0.7	1.3
Other, net	0.9	(0.9)	—
Effective rate	<u>25.0 %</u>	<u>23.2 %</u>	<u>26.0 %</u>

The increase in effective tax rate from 2021 to 2022 was primarily from the absence of benefit from the 2021 amended federal and state income tax return filing mentioned below and higher foreign taxes, partially offset by the change in valuation allowance.

The decrease in the effective tax rate from 2020 to 2021 was primarily the result of filing amended federal and state income tax returns during 2021. The Company amended the 2019 federal tax return to incorporate changes in tax regulations which generated a net operating loss that was carried back to tax years 2014 to 2016, which were at a higher federal tax rate. Other, net includes the impact of amended state returns reflecting changes in apportioned state income. These amendments resulted in a tax benefit during 2021. In addition, there was a decrease in the U.S. tax reform provision resulting from the provisions of the Tax Cut and Jobs Act, a decrease in state tax expense and a decrease in foreign tax expense due to mix of taxable income which were partially offset by an increase in valuation allowances.

On August 16, 2022, the Inflation Reduction Act of 2022 was signed into law. This act includes a new book minimum tax on certain large corporations and an excise tax on corporate stock buybacks among other provisions. At this time, the Company does not believe the act will have a material impact on our consolidated financial position, results of operations, or cash flows.

Components of deferred tax assets and liabilities were as follows:

<i>In millions</i>	December 31,	
	2022	2021
Deferred income tax assets:		
Accrued expenses and reserves	\$ 39	\$ 44
Warranty reserve	49	53
Deferred compensation/employee benefits	61	62
Right-of-use assets	74	76
Pension and postretirement obligations	19	24
Inventory	49	46
Deferred revenue	52	30
Net operating loss carry forwards	102	102
Other	37	72
Gross deferred income tax assets	482	509
Less: Valuation allowance	(46)	(64)
Total deferred income tax assets	436	445
Deferred income tax liabilities:		
Property, plant & equipment	78	85
Right-of-use liabilities	72	78
Intangible assets	542	503
Total deferred income tax liabilities	692	666
Net deferred income tax liability	\$ 256	\$ 221

A valuation allowance is recorded when it is more likely than not that some portion or all of the deferred tax assets will not be realized. As of December 31, 2022, the valuation allowance for certain foreign deferred tax asset carryforwards was \$46 million, primarily in China, Denmark, France, the Netherlands, South Africa, and the United States. The decrease in valuation allowances in 2022 is primarily related to the utilization of state net operating loss carry-forwards.

The Company has net operating loss carry-forwards in the amount of \$351 million, of which \$203 million are indefinite lived, \$81 million expire within ten years and \$67 million expire in various periods between December 31, 2033 to December 31, 2042.

As of December 31, 2022, the liability for income taxes associated with unrecognized tax benefits was \$33 million, of which \$20 million, if recognized, would favorably affect the Company's effective income tax rate. As of December 31, 2021, the liability for income taxes associated with unrecognized tax benefits was \$32 million, of which \$18 million, if recognized, would favorably affect the Company's effective income tax rate. A reconciliation of the beginning and ending amount of the gross liability for income taxes associated with unrecognized tax benefits follows:

<i>In millions</i>	2022	2021	2020
Balance at beginning of year	\$ 32	\$ 16	\$ 17
Unrecognized tax benefits in prior periods	1	19	4
Audit settlement during year	—	(1)	(5)
Expiration of audit statute of limitations	—	(2)	—
Balance at end of year	\$ 33	\$ 32	\$ 16

The Company includes interest and penalties related to unrecognized tax benefits in income tax expense. As of December 31, 2022 and 2021, the total interest and penalties accrued was approximately \$5 million.

An audit of Company's U.S. federal income tax returns for years 2017-2019 is ongoing and select state and non-U.S. income tax audits are also underway. With limited exception, the Company is no longer subject to examination by various U.S. and foreign taxing authorities for years before 2017. At this time, the Company believes that it is reasonably possible that unrecognized tax benefits of approximately \$8 million may change within the next 12 months due to the expiration of statutory review periods and current examinations.

12. EARNINGS PER SHARE

The computation of earnings per share from operations is as follows:

<i>In millions, except per share data</i>	For the Year Ended December 31,		
	2022	2021	2020
Numerator			
Net income attributable to Wabtec shareholders	\$ 633	\$ 558	\$ 414
Denominator			
Weighted average shares outstanding - basic	182.2	187.7	189.9
Effect of dilutive securities:			
Assumed conversion of dilutive stock-based compensation plans	0.6	0.4	0.5
Weighted average shares outstanding - diluted	182.8	188.1	190.4
Net income attributable to Wabtec shareholders per common share			
Basic	\$ 3.46	\$ 2.96	\$ 2.18
Diluted	\$ 3.46	\$ 2.96	\$ 2.17

Approximately 0.4 million outstanding shares of Common Stock for the year ended December 31, 2020 was not included in the computation of year-to-date diluted earnings per share because their exercise price exceeded the average market price of the Company's common stock.

13. STOCK-BASED COMPENSATION PLANS

As of December 31, 2022, the Company maintains employee stock-based compensation plans for stock options, restricted stock, and incentive stock units as governed by the 2011 Stock Incentive Compensation Plan, as amended and restated (the "2011 Plan") and the 2000 Stock Incentive Plan, as amended (the "2000 Plan"). The 2011 Plan has a term through May 10, 2027 and as of December 31, 2022 the number of shares available for future grants under the 2011 Plan was approximately 5.5 million shares. The Company also maintains a 1995 Non-Employee Directors' Fee and Stock Option Plan as amended and restated ("the Directors Plan"). The Directors Plan, as amended, authorizes a total of 1,100,000 shares of Common Stock to be issued. Under the Directors Plan options issued become exercisable over a three-year vesting period and expire ten years from the date of grant, and restricted stock issued under the plan vests one year from the date of grant. The amount of restricted stock issued to non-employee directors as compensation for directors' fees was as follows: 14,269 shares for 2022; 18,142 shares for 2021; and 23,152 shares for 2020. The total number of shares issued under the Directors Plan as of December 31, 2022 was approximately 1.0 million shares.

Stock-based compensation expense for all of the plans was \$49 million, \$46 million and \$20 million for the years ended December 31, 2022, 2021 and 2020, respectively. Associated tax benefits related to the stock-based compensation plans for the years ended December 31, 2022, 2021 and 2020 were not material. Included in the stock-based compensation expense for 2022 above is \$2 million of expense related to stock options, \$19 million related to non-vested restricted stock, \$8 million related to restricted stock units, \$1 million related to units issued for Directors' fees, and \$19 million of expense related to incentive stock units. The restricted stock units are liability-classified equity awards as they can be settled in cash. At December 31, 2022, unamortized compensation expense related to those stock options, non-vested restricted shares and incentive stock units expected to vest totaled \$47 million and will be recognized over a weighted period of 1.4 years.

Stock Options Stock options are granted to eligible employees and directors at fair market value, which is the average of the high and low Wabtec stock price on the date of grant. Under the 2011 Plan and the 2000 Plan, options become exercisable over a three year vesting period and expire 10 years from the date of grant.

The following table summarizes the Company's stock option activity and related information for the 2011 Plan, the 2000 Plan and Directors Plan for the years ended December 31:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic value (in millions)
Outstanding at December 31, 2019	588,024	\$ 63.36	5.7	\$ 9
Granted	136,506	\$ 77.75		—
Exercised	(86,145)	\$ 35.47		—
Canceled	(85,716)	\$ 73.73		—
Outstanding at December 31, 2020	552,669	\$ 69.82	6.1	\$ 4
Granted	126,794	\$ 81.21		—
Exercised	(113,728)	\$ 50.38		—
Canceled	(33,820)	\$ 73.53		—
Outstanding at December 31, 2021	531,915	\$ 75.40	6.5	\$ 9
Exercised	(116,590)	\$ 68.57		—
Canceled	(15,387)	\$ 77.10		—
Outstanding at December 31, 2022	399,938	\$ 77.32	5.9	\$ 11
Exercisable at December 31, 2022	293,952	\$ 76.45	5.8	\$ 7

Options outstanding at December 31, 2022 were as follows:

Range of Exercise Prices	Number of Options Outstanding	Weighted Average Exercise Price of Options Outstanding	Weighted Average Remaining Contractual Life	Number of Options Currently Exercisable	Weighted Average Exercise Price of Options Currently Exercisable
35.00 - 50.00	2,296	\$ 48.29	0.1	2,296	\$ 48.29
50.00 - 65.00	34,892	\$ 58.74	3.7	33,342	\$ 59.52
65.00 - 80.00	189,926	\$ 74.63	5.9	157,047	\$ 73.85
Over 80.00	172,824	\$ 84.42	6.4	101,267	\$ 86.70
	399,938	\$ 77.32	5.9	293,952	\$ 76.45

There were no stock options granted during the year ended December 31, 2022. The following weighted-average assumptions were used to estimate the fair value of each grant on the date of grant using the Black-Scholes option-pricing model for the years ended December 31, 2021 and 2020:

	For the year ended December 31,	
	2021	2020
Dividend yield	0.60 %	0.60 %
Risk-free interest rate	0.8 %	1.5 %
Stock price volatility	36.1 %	28.1 %
Expected life (years)	5.0	5.0
Weighted average fair value of options granted during the year	\$ 25.01	\$ 21.05

The dividend yield is based on the Company's dividend rate and the current market price of the underlying common stock at the date of grant. Expected life in years is determined from historical stock option exercise data. Expected volatility is based on the historical volatility of the Company's stock. The risk-free interest rate is based on the 7 years U.S. Treasury bond rates for the expected life of the option.

Restricted Stock and Incentive Stock As provided for under the 2011 and 2000 Plans, eligible employees are granted restricted stock that generally vests over three years from the date of grant. Under the Directors Plan, restricted stock units vest one year from the date of grant.

In addition, the Company has issued incentive stock units to eligible employees that vest upon attainment of certain cumulative three-year performance goals. Significant judgments and estimates are used in determining the estimated three-year performance, which is then used to estimate the total shares expected to vest over the three year vesting cycle and corresponding expense based on the grant date fair value of the award. When determining the estimated three-year performance, the Company utilizes a combination of historical actual results, budgeted results and forecasts. Upon the initial grant of a performance cycle, the Company estimates the three-year performance at 100%. Quarterly, the Company reviews and updates performance estimates based on actual performance results and current projections. Based on the Company's performance for each three year period then ended, the incentive stock units can vest and be awarded ranging from 0% to 200% of the initial incentive stock units granted. The incentive stock units included in the table below represent the number of shares that are expected to vest based on the Company's estimate for meeting those established performance targets. As of December 31, 2022, the Company estimates that it will achieve 132%, 125% and 110% for the incentive stock awards expected to vest based on performance for the three year periods ending December 31, 2022, 2023, and 2024, respectively, and has recorded incentive compensation expense accordingly. If estimates of the number of these stock units expected to vest changes in a future accounting period, cumulative compensation expense could increase or decrease and will be recognized in the current period for the elapsed portion of the vesting period and would change future expense for the remaining vesting period.

Compensation expense for the non-vested restricted stock and incentive stock units is based on the closing price of the Company's common stock on the date of grant and recognized over the applicable vesting period. Expense for incentive stock units is updated as necessary based on the Company's performance.

The following table summarizes the restricted stock activity and related information for the 2011 Plan, the 2000 Plan, and Directors Plan, and incentive stock units activity and related information for the 2011 Plan and the 2000 Plan with related information for the years ended December 31:

	Restricted Stock and Units	Incentive Stock Awards	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2019	791,031	572,002	\$ 73.64
Granted	283,587	250,197	\$ 75.68
Vested	(345,859)	(147,069)	\$ 77.45
Adjustment for incentive stock awards expected to vest	—	(331,004)	\$ 71.32
Canceled	(72,753)	(73,481)	\$ 72.83
Outstanding at December 31, 2020	656,006	270,645	\$ 73.80
Granted	235,902	241,467	\$ 81.64
Vested	(350,955)	(37,672)	\$ 71.82
Adjustment for incentive stock awards expected to vest	—	180,767	\$ 76.26
Canceled	(33,255)	(48,106)	\$ 76.24
Outstanding at December 31, 2021	507,698	607,101	\$ 78.06
Granted	460,841	176,657	\$ 91.19
Vested	(234,597)	(43,039)	\$ 75.14
Adjustment for incentive stock awards expected to vest	—	45,301	\$ 84.55
Canceled	(44,522)	(41,176)	\$ 76.84
Outstanding at December 31, 2022	<u>689,420</u>	<u>744,844</u>	\$ 84.73

14. ACCUMULATED OTHER COMPREHENSIVE LOSS

Comprehensive income (loss) comprises both net income and the Other Comprehensive (loss) income resulting from the change in equity from transactions and other events and circumstances from non-owner sources.

The changes in Accumulated other comprehensive loss by component, net of tax, for the years ended December 31, 2022, 2021, and 2020 are as follows:

<i>In millions</i>	Foreign currency translation	Derivative contracts	Pension and post retirement benefit plans	Total
Balance at December 31, 2019	\$ (308)	\$ (3)	\$ (72)	\$ (383)
Other comprehensive income (loss) before reclassifications	48	6	(13)	41
Amounts reclassified from Accumulated other comprehensive loss	—	—	3	3
Other comprehensive income (loss), net	48	6	(10)	44
Balance at December 31, 2020	\$ (260)	\$ 3	\$ (82)	\$ (339)
Other comprehensive (loss) income before reclassifications	(136)	(8)	13	(131)
Amounts reclassified from Accumulated other comprehensive loss	—	—	4	4
Other comprehensive (loss) income, net	(136)	(8)	17	(127)
Balance at December 31, 2021	\$ (396)	\$ (5)	\$ (65)	\$ (466)
Other comprehensive (loss) income before reclassifications	(200)	(4)	7	(197)
Amounts reclassified from Accumulated other comprehensive loss	—	—	2	2
Other comprehensive (loss) income, net	(200)	(4)	9	(195)
Balance at December 31, 2022	\$ (596)	\$ (9)	\$ (56)	\$ (661)

Amounts reclassified from Accumulated other comprehensive loss are recognized in "Other income, net" with the tax impact recognized in "Income tax expense" on the Consolidated Statements of Income.

15. LEASES

The Company leases certain property, buildings and equipment. For leases with terms greater than 12 months, the Company records the related asset and obligation at the present value of lease payments. Many of the Company's leases include rental escalation clauses, renewal options, and/or termination options that are factored into our determination of lease payments when appropriate. The Company does not separate lease and non-lease components. Operating lease expense for the years ended December 31, 2022, 2021, and 2020 was \$60 million, \$59 million, and \$57 million, respectively. During 2022 and 2021, new operating leases of \$80 million were added during each year. As most of the Company's leases do not provide a readily stated discount rate, the Company must estimate the rate to discount lease payments using its incremental borrowing rate. Wabtec does not have material financing leases, short-term or variable leases or sublease income.

Scheduled payments of operating lease liabilities are as follows:

<i>In millions</i>	Operating Leases
2023	\$ 61
2024	53
2025	46
2026	39
2027	29
Thereafter	129
Total lease payments	357
Less: Present value discount	(23)
Present value lease liabilities	\$ 334

The following table summarizes the remaining lease term and discount rate assumptions used to develop the present value of operating lease liabilities:

	December 31, 2022	December 31, 2021
Weighted-average remaining lease term (years)	8.3	8.2
Weighted-average discount rate	2.3 %	2.3 %

16. WARRANTIES

The following table reconciles the changes in the Company's product warranty reserve as follows:

<i>In millions</i>	2022	2021
Balance at beginning of year	\$ 259	\$ 279
Acquisitions	3	2
Warranty expense	79	116
Warranty claim payments	(91)	(124)
Foreign currency impact	(8)	(14)
Balance at end of year	<u>\$ 242</u>	<u>\$ 259</u>

17. FAIR VALUE MEASUREMENT AND DERIVATIVE INSTRUMENTS

ASC 820 "Fair Value Measurements and Disclosures" defines fair value, establishes a framework for measuring fair value and explains the related disclosure requirements. ASC 820 indicates, among other things, that a fair value measurement assumes that the transaction to sell an asset or transfer a liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability and defines fair value based upon an exit price model.

Valuation Hierarchy. ASC 820 establishes a valuation hierarchy for disclosure of the inputs to valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value. A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The Company's cash, cash equivalents and restricted cash are highly liquid investments purchased with an original maturity of three months or less and are considered Level 1 on the fair value valuation hierarchy. The fair value of cash, cash equivalents and restricted cash approximated the carrying value at December 31, 2022 and December 31, 2021. The Company's defined benefit pension plan assets consist primarily of equity security funds, debt security funds, insurance contracts, and temporary cash and cash equivalent investments. These investments are comprised of a number of investment funds that invest in a diverse portfolio of assets including equity securities, corporate and governmental bonds, and money markets. Trusts are valued at the net asset value ("NAV") as determined by their custodian. NAV represents the accumulation of the unadjusted quoted close prices on the reporting date for the underlying investments divided by the total shares outstanding at the reporting dates (see Note 10). The Senior Notes are considered Level 2 based on the fair value valuation hierarchy. Contingent consideration related to the GE Transportation acquisition is considered Level 3 based on the fair value valuation hierarchy. At December 31, 2022 and 2021, \$105 million and \$110 million, respectively, were classified as "Other accrued liabilities" on the Company's Consolidated Balance Sheets and \$47 million and \$141 million, respectively, were included within long-term liabilities shown as "Contingent consideration" on the Company's Consolidated Balance Sheets. The fair value approximates the carrying value at December 31, 2022 and 2021.

Hedging Activities In the normal course of business, the Company is exposed to market risks related to interest rates, commodity prices and foreign currency exchange rate fluctuations, which may adversely affect our operating results and financial position. At times, we limit these risks through the use of derivatives such as cross-currency swaps, foreign currency forward contracts, interest rate swaps, commodity swaps and options. These hedging contracts are valued using broker quotations, or market transactions in either the listed or over-the counter markets. As such, these derivative instruments are classified within Level 2. In accordance with our policy, derivatives are only used for hedging purposes. We do not use derivatives for trading or speculative purposes.

Foreign Currency Exchange Risk

The Company uses forward contracts to hedge forecasted foreign currency denominated sales of finished goods and future settlement of foreign currency denominated assets and liabilities. Derivatives used to hedge firm commitments relevant to sales and purchases and forecasted transactions to be realized with high probability that meet the criteria for hedge accounting are designated as cash flow hedges. The effective portion of gains and losses is deferred as a component of Accumulated other comprehensive loss and is recognized in earnings at the time the hedged item affects earnings, in the same line item as the underlying hedged item. For the years ended December 31, 2022, 2021 and 2020, the amounts reclassified into income were not material.

The Company has also established balance sheet risk management and net investment hedging programs to protect its balance sheet against foreign currency exchange rate volatility. We conduct our business worldwide in U.S. dollars and the functional currencies of our foreign subsidiaries, including euro, Indian rupee, British pound sterling, Australian dollars and several other foreign currencies. Changes in these foreign currency exchange rates could have a material adverse impact on our financial results that are reported in U.S. dollars. We are also exposed to foreign currency exchange rate risk related to our foreign subsidiaries, including intercompany loans denominated in non-functional currencies. We hedge these exposures using foreign currency swap contracts and cross-currency swaps to offset the potential income statement effects on intercompany loans denominated in non-functional currencies. These programs reduce but do not eliminate foreign currency exchange rate risk entirely.

The Company enters into certain derivative contracts in accordance with its risk management strategy that do not meet the criteria for hedge accounting, but which have the impact of largely mitigating foreign currency exposure. These foreign exchange contracts are accounted for on a full mark-to-market basis through earnings, with gains and losses recorded as a component of Other income, net. The net gain (loss) related to these contracts were \$1, \$(5) and \$(1) million for the years ended December 31, 2022, 2021 and 2020, respectively. These contracts typically mature within one year.

The following table summarizes the assets, liabilities, gross notional amounts, fair values, and fair value hierarchy classification of the designated and non-designated hedges discussed in the above sections as of December 31, 2022, which are included in other current assets and liabilities on the Consolidated Balance Sheets:

<i>In millions</i>	Level	Fair Value		Gross Notional Amount	
		Designated	Non-Designated	Designated	Non-Designated
Foreign Exchange Contracts					
Other current assets	2	\$ 8	\$ 3	\$ 278	\$ 156
Other current liabilities	2	(11)	(3)	769	152
Total		\$ (3)	\$ —	\$ 1,047	\$ 308

The following table summarizes the assets, liabilities, gross notional amounts, fair values, and fair value hierarchy classification of the designated and non-designated hedges discussed in the above sections as of December 31, 2021, which are included in other current assets and liabilities on the Consolidated Balance Sheets:

<i>In millions</i>	Level	Fair Value		Gross Notional Amount	
		Designated	Non-Designated	Designated	Non-Designated
Foreign Exchange Contracts					
Other current assets	2	\$ 8	\$ —	\$ 627	\$ —
Other current liabilities	2	(1)	(2)	613	289
Cross-currency Swaps					
Other current assets	2	—	—	14	—
Total		\$ 7	\$ (2)	\$ 1,254	\$ 289

Interest Rate Risk

The Company may use interest rate swap contracts on certain investing and borrowing transactions to manage its net exposure to interest rate changes and to reduce its overall cost of borrowing. The Company does not use leveraged swaps and, in general, does not leverage any of its investment activities that would put principal capital at risk. For the years ended December 31, 2022, 2021 and 2020, the amounts reclassified into income were not material.

Commodity Price Risk

The Company may use commodity forward swaps to manage its exposure to commodity price changes and to reduce its overall cost of manufacturing. For the years ended December 31, 2022, 2021 and 2020, the amounts reclassified into income were not material.

18. COMMITMENTS AND CONTINGENCIES

The Company is subject to a variety of environmental laws and regulations governing discharges to air and water, the handling, storage and disposal of hazardous or solid waste materials and the remediation of contamination associated with releases of hazardous substances. The Company believes its operations currently comply in all material respects with all of the various environmental laws and regulations applicable to our business; however, there can be no assurance that environmental requirements will not change in the future or that we will not incur significant costs to comply with such requirements.

Claims have been filed against the Company and certain of its affiliates in various jurisdictions across the United States by persons alleging bodily injury as a result of exposure to asbestos-containing products. The vast majority of the claims are submitted to insurance carriers for defense and indemnity, or to non-affiliated companies that retain the liabilities for the asbestos-containing products at issue. We cannot, however, assure that all of these claims will be fully covered by insurance, or that the indemnitors or insurers will remain financially viable. Our ultimate legal and financial liability with respect to these claims, as is the case with other pending litigation, cannot be estimated. A limited number of claims are not covered by insurance, nor are they subject to indemnity from non-affiliated parties. Management believes that the costs of the Company's asbestos-related cases will not be material to the Company's overall financial position, results of operations and cash flows.

Xorail, Inc., a wholly owned subsidiary of the Company ("Xorail"), has received notices from Denver Transit Constructors ("DTC") alleging breach of contract related to the operating of constant warning wireless crossings, and late delivery of the Train Management & Dispatch System ("TMDS") for the Denver Eagle P3 Project, which is owned by the Denver Regional Transit District ("RTD"). No damages have been asserted for the alleged late delivery of the TMDS, and no formal claim has been filed; Xorail has successfully completed a remediation plan concerning the TMDS issues. With regard to the wireless crossing issue, as of September 8, 2017, DTC alleged that total damages were \$37 million through July 31, 2017 and were continuing to accumulate. The majority of the damages stems from a delay in approval of the wireless crossing system by the Federal Railway Administration ("FRA") and the Public Utility Commission ("PUC"), resulting in the use of flaggers at all of the crossings pending approval of the wireless crossing system and certification of the crossings. DTC has alleged that the delay is due to Xorail's failure to achieve constant warning times for the crossings in accordance with the approval requirements imposed by the FRA and PUC. Xorail has denied DTC's assertions, stating that its system satisfied the contractual requirements. Xorail has worked with DTC to modify its system and implement the FRA's and PUC's previously undefined approval requirements; the FRA and PUC have both approved modified wireless crossing system, and as of August 2018, DTC completed the process of certifying the crossings and eliminated the use of flaggers. DTC has not updated its notices against Xorail, nor have they filed any formal claim against Xorail. On September 21, 2018, DTC filed a complaint against RTD in Colorado state court for breach of contract related to non-payments and the costs for the flaggers, asserting a change-in-law arising from the FRA/PUC's new certification requirements. DTC's claim against RTD proceeded to trial on September 21, 2020. On February 10, 2023, the court issued a decision in favor of RTD, denying DTC's damages claim.

From time to time the Company is involved in litigation relating to claims arising out of its operations in the ordinary course of business. As of the date hereof, the Company is involved in no litigation that the Company believes will have a material adverse effect on its financial condition, results of operations or liquidity.

19. SEGMENT INFORMATION

The Company has two reportable segments—the Freight Segment and the Transit Segment. The key factors used to identify these reportable segments are the organization and alignment of the Company's internal operations, the nature of the products and services, and customer type. The Company's business segments are:

Freight Segment builds, rebuilds, upgrades, and overhauls locomotives, services locomotives and freight cars, and provides a range of component and digital solutions for customers in the freight and transit rail, mining, and marine industries. Wabtec manufactures and services components for new and existing freight cars and locomotives, supplies railway electronics, positive train control equipment, signal design and engineering services, maintenance of way, and provides heat exchange and cooling systems for locomotives and power generation equipment. Customers include large, publicly traded railroads, leasing companies, manufacturers of original equipment such as locomotives and freight cars, and utilities, and also serves companies in the mining, marine, and industrial markets. We refer to sales of both goods, such as spare parts and equipment upgrades, and related services, such as monitoring, maintenance and repairs, as sales in our Services product line.

Transit Segment primarily manufactures and services components for new and existing passenger transit vehicles, typically regional trains, high speed trains, subway cars, light-rail vehicles and buses. It also refurbishes subway cars and provides heating, ventilation, and air conditioning equipment, and doors for buses and subway cars. Customers include public transit authorities and municipalities, leasing companies, and manufacturers of subway cars and buses around the world.

The Company evaluates its business segments' operating results based on income from operations. Intersegment sales are accounted for at prices that are generally established by reference to similar transactions with unaffiliated customers. Corporate activities include general corporate expenses, elimination of intersegment transactions, interest income and expense and other unallocated charges.

Segment financial information for 2022 is as follows:

<i>In million</i>	Freight Segment	Transit Segment	Corporate Activities and Elimination	Total
Sales to external customers	\$ 6,012	\$ 2,350	\$ —	\$ 8,362
Intersegment sales/(elimination)	51	31	(82)	—
Total sales	\$ 6,063	\$ 2,381	\$ (82)	\$ 8,362
Income (loss) from operations	\$ 864	\$ 231	\$ (84)	\$ 1,011
Interest expense and other, net	—	—	(157)	(157)
Income (loss) before income taxes	\$ 864	\$ 231	\$ (241)	\$ 854
Depreciation and amortization	\$ 399	\$ 60	\$ 20	\$ 479
Capital expenditures	\$ 87	\$ 54	\$ 8	\$ 149
Segment assets	\$ 21,118	\$ 5,116	\$ (7,718)	\$ 18,516

Segment financial information for 2021 is as follows:

<i>In millions</i>	Freight Segment	Transit Segment	Corporate Activities and Elimination	Total
Sales to external customers	\$ 5,239	\$ 2,583	\$ —	\$ 7,822
Intersegment sales/(elimination)	48	33	(81)	—
Total sales	\$ 5,287	\$ 2,616	\$ (81)	\$ 7,822
Income (loss) from operations	\$ 717	\$ 238	\$ (79)	\$ 876
Interest expense and other, net	—	—	(139)	(139)
Income (loss) from operations before income taxes	\$ 717	\$ 238	\$ (218)	\$ 737
Depreciation and amortization	\$ 405	\$ 70	\$ 16	\$ 491
Capital expenditures	\$ 79	\$ 48	\$ 3	\$ 130
Segment assets	\$ 18,291	\$ 5,768	\$ (5,605)	\$ 18,454

Segment financial information for 2020 is as follows:

<i>In millions</i>	Freight Segment	Transit Segment	Corporate Activities and Elimination	Total
Sales to external customers	\$ 5,082	\$ 2,474	\$ —	\$ 7,556
Intersegment sales/(elimination)	49	37	(86)	—
Total sales	\$ 5,131	\$ 2,511	\$ (86)	\$ 7,556
Income (loss) from operations	\$ 584	\$ 230	\$ (69)	\$ 745
Interest expense and other, net	—	—	(188)	(188)
Income (loss) before income taxes	\$ 584	\$ 230	\$ (257)	\$ 557
Depreciation and amortization	\$ 393	\$ 67	\$ 13	\$ 473
Capital expenditures	\$ 70	\$ 40	\$ 26	\$ 136

The following geographic area data as of and for the years ended December 31, 2022, 2021 and 2020, respectively, includes net sales based on product shipment destination and long-lived assets, which consist of property, plant and equipment, net of depreciation, resident in their respective countries:

<i>In millions</i>	Net Sales			Long-Lived Assets	
	2022	2021	2020	2022	2021
United States	\$ 3,734	\$ 3,321	\$ 3,161	\$ 956	\$ 983
Canada	454	462	372	5	6
Mexico	287	220	187	21	22
North America	4,475	4,003	3,720	982	1,011
South America	336	301	217	37	32
United Kingdom	213	300	314	40	45
Germany	339	383	351	59	70
France	273	286	252	52	54
Italy	163	196	172	33	29
Switzerland	73	88	83	2	2
Other Europe	385	427	405	50	55
Europe	1,446	1,680	1,577	236	255
India	531	531	441	131	151
Australia / New Zealand	465	386	366	8	9
China	244	228	225	29	32
Other Asia / Middle East	183	177	199	—	—
Egypt	164	32	360	—	—
Other Africa	119	72	138	3	4
Kazakhstan / Russia / CIS	399	412	313	3	3
Total	\$ 8,362	\$ 7,822	\$ 7,556	\$ 1,429	\$ 1,497

Net sales to external customers by product line are as follows:

<i>In millions</i>	2022	2021	2020
Freight Segment:			
Services	\$ 2,819	\$ 2,430	\$ 2,068
Equipment	1,528	1,302	1,531
Components	936	867	819
Digital Electronics	729	640	664
Total Freight Segment sales	\$ 6,012	\$ 5,239	\$ 5,082
Transit Segment:			
Original Equipment Manufacturer	\$ 1,095	\$ 1,193	\$ 1,139
Aftermarket	1,255	1,390	1,335
Total Transit Segment sales	\$ 2,350	\$ 2,583	\$ 2,474

20. OTHER INCOME, NET

The components of Other income, net are as follows:

<i>In millions</i>	For the year ended December 31,		
	2022	2021	2020
Foreign currency gain (loss)	\$ 6	\$ 8	\$ (8)
Equity income	17	20	10
Expected return on pension assets/amortization	7	9	10
Other miscellaneous (expense) income	(1)	1	(1)
Total Other income, net	\$ 29	\$ 38	\$ 11

21. RESTRUCTURING

During the first quarter of 2022, Wabtec announced a three-year strategic initiative (“Integration 2.0”) to review and consolidate our operating footprint, reduce headcount, streamline the end-to-end manufacturing process, restructure the North America distribution channels, expand operations in low-cost countries, and simplify the business through systems enablement. Through this initiative, Management will also evaluate additional capital investments to further simplify and streamline the business. The Company anticipates that it will incur one-time charges related to Integration 2.0 of approximately \$135 million to \$165 million.

During 2022, the Company incurred one-time charges related to the initiative of approximately \$46 million, of which approximately \$39 million was included in Cost of goods sold and approximately \$7 million was included in Selling, general and administrative expenses on the Consolidated Statements of Income. These charges are primarily for employee-related costs associated with site consolidations in Europe, and costs related to the restructuring of the North America distribution channels. Approximately \$32 million is related to actions in the Transit segment and approximately \$14 million is related to actions in the Freight segment.

Total charges related to Integration 2.0 to date are approximately \$69 million which includes amounts recorded in the fourth quarter 2021 for similar actions in Europe. Cash payments made during 2022 were not material.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

There have been no disagreements with our independent registered public accountants.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Wabtec's principal executive officer and its principal financial officer have evaluated the effectiveness of Wabtec's "disclosure controls and procedures," (as defined in Exchange Act Rule 13a-15(e)) as of December 31, 2022. Based upon their evaluation, the principal executive officer and principal financial officer concluded that Wabtec's disclosure controls and procedures are effective to provide reasonable assurance that information required to be disclosed by Wabtec in the reports filed or submitted by it under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and to provide reasonable assurance that information required to be disclosed by Wabtec in such reports is accumulated and communicated to Wabtec's Management, including its principal executive officer and principal finance officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There was no change in Wabtec's "internal control over financial reporting" (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2022, that has materially affected, or is reasonably likely to materially affect, Wabtec's internal control over financial reporting. Management's annual report on internal control over financial reporting and the attestation report of the registered public accounting firm are included in Part II, Item 8 of this report.

Management's Report on Internal Control over Financial Reporting

Management's Report on Internal Control Over Financial Reporting appears on page [44](#) and is incorporated by reference herein.

Report of Independent Registered Public Accounting Firm on Internal Control over Financial Reporting

Ernst & Young LLP's attestation report on internal control over financial reporting appears on page [47](#) and is incorporated by reference herein.

Item 9B. OTHER INFORMATION

None.

Item 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

Items 10 through 14.

In accordance with the provisions of General Instruction G(3) to Form 10-K, the information required by Item 10 (Directors, Executive Officers and Corporate Governance), Item 11 (Executive Compensation), Item 12 (Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters), Item 13 (Certain Relationships and Related Transactions, and Director Independence) and Item 14 (Principal Accounting Fees and Services) is incorporated herein by reference from the Company's definitive Proxy Statement for its Annual Meeting of Stockholders to be held on May 17, 2023, except for the Equity Compensation Plan Information required by Item 12, which is set forth in the table below. The definitive Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after December 31, 2022. Information relating to the executive officers of the Company is set forth in Part I.

Wabtec has adopted a Code of Business Conduct and Ethics which is applicable to all of our employees, including our executive officers. This Code of Business Conduct and Ethics is posted on our website at www.wabteccorp.com. In the event that we make any amendments to or waivers from this code, we will disclose the amendment or waiver and the reasons for such on our website.

This table provides aggregate information as of December 31, 2022 concerning equity awards under Wabtec's compensation plans and arrangements.

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by shareholders	1,100,000	\$ 77.32	5,500,000
Equity compensation plans not approved by shareholders	—	—	—
Total	1,100,000	\$ 77.32	5,500,000

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The financial statements filed as part of this report are included in Part II Item 8 of this report. Financial statement schedules and exhibits listed below are filed as part of this annual report:

		<u>Page</u>
(1)	Financial Statements and Reports on Internal Control	
	Management's Reports to Westinghouse Air Brake Technologies Corporation Shareholders	44
	Report of Independent Registered Public Accounting Firm (PCAOB ID: 42, Pittsburgh, Pennsylvania)	45
	Report of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting	47
	Consolidated Balance Sheets as of December 31, 2022 and 2021	48
	Consolidated Statements of Income for the three years ended December 31, 2022, 2021 and 2020	49
	Consolidated Statements of Comprehensive Income for the three years ended December 31, 2022, 2021 and 2020	50
	Consolidated Statements of Cash Flows for the three years ended December 31, 2022, 2021 and 2020	51
	Consolidated Statements of Shareholders' Equity for the three years ended December 31, 2022, 2021 and 2020	52
	Notes to Consolidated Financial Statements	53
(2)	Financial Statement Schedules	
	Schedule II—Valuation and Qualifying Accounts	86
		Filing Method
	Exhibits	
2.1	Shareholder's Agreement among Financiere Faiveley S.A., FW Acquisition, LLC, and Wabtec Corporation dated as of October 6, 2015	13
2.2	Amendment No. 1 to Shareholder's Agreement among Financiere Faiveley S.A., Famille Faiveley Participations, Francois Faiveley, Erwan Faiveley, and Wabtec Corporation dated as of October 24, 2016	14
2.3	Employee Matters Agreement among General Electric Company, Transportation Systems Holdings Inc., Westinghouse Air Brake Technologies Corporation and Wabtec US Rail, Inc.	21
2.4**	Tax Matters Agreement among General Electric Company, Transportation Systems Holdings Inc., Westinghouse Air Brake Technologies Corporation and Wabtec US Rail, Inc.	21
3.1	Restated Certificate of Incorporation of the Company dated January 30, 1995, as amended December 31, 2003	9
3.2	Certificate of Amendment of Restated Certificate of Incorporation dated May 14, 2013	11
3.3	Amended and Restated By-Laws of the Company, effective February 10, 2023	8
3.4	Certificate of Amendment to Restated Certificate of Incorporation dated November 19, 2018	22
3.5	Certificate of Designations of Series A Non-Voting Convertible Preferred Stock of Westinghouse Air Brake Technologies Corporation, dated February 22, 2019	21
4.1	Indenture, dated August 8, 2013 by and between the Company and Wells Fargo, National Association, as Trustee	12
4.2	First Supplemental Indenture, dated August 8, 2013, by and between the Company and Wells Fargo Bank, National Association, as Trustee	12
4.3	Form of 4.375% Senior Note due 2023 (included in Exhibit 4.2)	12
4.4	Second Supplemental Indenture, dated November 3, 2016, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	15
4.5	Third Supplemental Indenture, dated November 3, 2016, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	15
4.6	Form of 3.450% Senior Note due 2026 (included in Exhibit 4.5)	15
4.7	Fourth Supplemental Indenture, dated February 9, 2017, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	16

4.8	Fifth Supplemental Indenture, dated April 28, 2017, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	17
4.9	Sixth Supplemental Indenture, dated June 21, 2017, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee.	18
4.10	Seventh Supplemental Indenture, dated June 8, 2018, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	19
4.11	Eighth Supplemental Indenture, dated June 29, 2018, by and among Westinghouse Air Brake Technologies Corporation, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee	19
4.12	Ninth Supplemental Indenture, dated September 14, 2018, by and among the Company, the guarantors party thereto and Wells Fargo Bank, National Association, as Trustee.	20
4.13	Form of 1.150% Senior Note due 2024 (included in Exhibit 4.12)	1
4.14	Form of 4.700% Senior Note due 2028 (included in Exhibit 4.12)	1
4.15	Tenth Supplemental Indenture, dated June 6, 2019, by and among the Company, the guarantors party thereto and Wells Fargo Bank, National Association, as Trustee	23
4.16	Eleventh Supplement Indenture, dated June 29, 2020, by and among the Company, the guarantors party thereto and Wells Fargo Bank, National Association, as Trustee	25
4.17	Form of 3.200% Senior Note due 2025 (included in Exhibit 4.16)	1
4.18	Description of Wabtec Common Stock registered pursuant to Section 12 of the Securities Act of 1934	1
4.19	Base Indenture, dated as of June 3, 2021, among Wabtec Transportation Netherlands B.V., as issuer, Westinghouse Air Brake Technologies Corporation, as guarantor, and U.S. Bank National Association, as Trustee	27
4.20	First Supplemental Indenture, dated as of June 3, 2021, among Wabtec Transportation Netherlands B.V., as issuer, Westinghouse Air Brake Technologies Corporation, as guarantor, and U.S. Bank National Association, as Trustee	27
4.21	Form of 1.250% Notes due 2027 (included in Exhibit 4.20 hereof).	27
10.1	Agreement of Sale and Purchase of the North American Operations of the Railway Products Group, an operating division of American Standard Inc. (now known as Trane), dated as of 1990 between Rail Acquisition Corp. and American Standard Inc. (only provisions on indemnification are reproduced)	2
10.2	Letter Agreement (undated) between the Company and American Standard Inc. (now known as Trane) on environmental costs and sharing	2
10.3	Purchase Agreement dated as of June 17, 1992 among the Company, Schuller International, Inc., Manville Corporation and European Overseas Corporation (only provisions on indemnification are reproduced)	2
10.4	Westinghouse Air Brake Company 1995 Non-Employee Directors' Fee and Stock Option Plan, as amended and restated*	4
10.5	Westinghouse Air Brake Technologies Corporation 2000 Stock Incentive Plan, as Westinghouse Air Brake Technologies Corporation 2000 Stock Incentive Plan, as amended * *	33
10.6	Employment Agreement with Albert J. Neupaver, dated February 1, 2006 *	3
10.7	Form of Restricted Stock Agreement *	10
10.8	Westinghouse Air Brake Technologies Corporation Amended and Restated 2011 Stock Incentive Plan*	5
10.9	Stock Purchase Agreement, by and among the Company, Standard Car Truck Company and Robclif, Inc., dated September 12, 2008	6
10.10	Form of Employment Continuation Agreement entered into by the Company with Nicole Theophilus, Michael E. Fetsko, and John A Mastalerz Jr.*	7
10.11	Wabtec Corporation Deferred Compensation Plan for Executive Officers and Directors as adopted December 10, 2009 *	10
10.12	Form of Agreement for Nonstatutory Stock Option under the 1995 Non-Employee Directors' Fee and Stock Option Plan, as amended and restated*	10
10.13	Form of Agreement for Nonstatutory Stock Options under 2000 Stock Incentive Plan, as amended *	10
10.14	Form of Agreement for Nonstatutory Stock Options under 2011 Stock Incentive Plan as amended and restated*	10

10.15	Amendment and Restatement Agreement, dated as of August 15, 2022, among Westinghouse Air Brake Technologies Corporation, Wabtec Transportation Netherlands BV, the other loan parties hereto, the lenders party thereto, the issuing banks thereto, the swingline lender and PNC Bank, National Association as administrative agent (including the Amended and Restated Credit Agreement, as Annex I thereto).	28
10.16	[Reserved]	
10.17	[Reserved]	
10.18	Form of Severance and Employment Continuation Agreement entered into by the Company with John Olin, David DeNinno, Pascal Schweitzer, and Eric Gebhardt*	26
10.19	Westinghouse Air Brake Technologies Corporation Deferred Compensation Plan for Executives, dated October 21, 2021	30
10.20	Separation Agreement between Stephane Rambaud-Measson and Westinghouse Air Brake Technologies Corporation, dated as of February 13, 2019	24
10.21	Transition Agreement between Raymond T. Betler and Westinghouse Air Brake Technologies Corporation, dated as of April 24, 2019	24
10.22	Severance and Employment Continuation Agreement of Rafael Santana dated as of December 5, 2022*	26
10.23	Transition Agreement of Scott Wahlstrom dated as of November 25, 2020	32
10.24	[Reserved]	
10.25	Transition Agreement of Patrick A. Dugan, dated as of September 9, 2021	31
21.0	List of subsidiaries of the Company	1
22.0	List of Subsidiary Guarantors	1
23.1	Consent of Ernst & Young LLP	1
31.1	Rule 13a-14(a)/15d-14(a) Certifications	1
31.2	Rule 13a-14(a)/15d-14(a) Certifications	1
32.1	Section 1350 Certifications	1
101.INS	XBRL Instance Document.	1
101.SCH	XBRL Taxonomy Extension Calculation Linkbase Document	1
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	1
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	1
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	1
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	1
104	XBRL Cover Page Interactive Data (embedded within the Inline XBRL document)	1

- 1 Filed herewith.
- 2 Filed as an exhibit to the Company's Registration Statement on Form S-1 (File No. 033-90866).
- 3 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866) for the period ended March 31, 2006.
- 4 Filed as an Annex to the Company's Schedule 14A Proxy Statement (File No. 033-90866) filed on March 31, 2017.
- 5 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866) filed on April 6, 2022.
- 6 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866) for the period ended September 30, 2008.
- 7 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866) dated July 2, 2009.
- 8 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated February 14, 2023.
- 9 Filed as an exhibit to the Company's Annual Report on Form 10-K (File No. 033-90866), dated February 25, 2011.
- 10 Filed as an exhibit to the Company's Annual Report on Form 10-K (File No. 033-90866), dated February 22, 2013.

- 11 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated September 9, 2019.
- 12 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated August 8, 2013.
- 13 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated October 6, 2015.
- 14 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated October 26, 2016.
- 15 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated November 3, 2016.
- 16 Filed as an exhibit to the Company's Current Report on Form 10-K (File No. 033-90866), dated February 28, 2017.
- 17 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), for the period ended March 31, 2017.
- 18 Filed as an exhibit to the Company's Registration Statement on Form S-4 (File No. 0333-219354).
- 19 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), for the period ended June 30, 2018.
- 20 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated September 14, 2018.
- 21 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated February 25, 2019.
- 22 Filed as an exhibit to the Company's Annual Report on Form 10-K (File No. 033-90866), dated February 27, 2019.
- 23 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), dated August 1, 2019.
- 24 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), dated May 9, 2019.
- 25 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated June 29, 2020.
- 26 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated December 7, 2022.
- 27 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated June 2, 2021.
- 28 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), dated November 1, 2022.
- 29 [Reserved]
- 30 Filed as an exhibit to the Company's Current Report on Form 8-K (File No. 033-90866), dated October 21, 2021.
- 31 Filed as an exhibit to the Company's Quarterly Report on Form 10-Q (File No. 033-90866), for the period ended September 30, 2021.
- 32 Filed as an exhibit to the Company's Annual Report on Form 10-K (File No. 033-90866), dated February 19, 2021.
- 33 Filed as an exhibit to the Company's Registration Statement on Form S-8 (File No. 033-90866), dated March 2, 2012.

* Management contract or compensatory plan.

** Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Wabtec hereby undertakes to furnish supplementally, copies of any of the omitted schedules upon request by the SEC.

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION

VALUATION AND QUALIFYING ACCOUNTS

For each of the three years ended December 31

<i>In millions</i>	Balance at beginning of period	Charged to expense	Charged/ (credited) to other accounts (1)	Deductions from reserves (2)	Balance at end of period
2022					
Allowance for doubtful accounts	\$ 32	\$ 4	\$ (1)	\$ (7)	\$ 28
Valuation allowance-taxes	\$ 64	\$ —	\$ —	\$ (18)	\$ 46
2021					
Allowance for doubtful accounts	\$ 37	\$ 3	\$ (1)	\$ (7)	\$ 32
Valuation allowance-taxes	\$ 42	\$ 22	\$ —	\$ —	\$ 64
2020					
Allowance for doubtful accounts	\$ 20	\$ 18	\$ —	\$ (1)	\$ 37
Valuation allowance-taxes	\$ 58	\$ —	\$ —	\$ (16)	\$ 42

(1) Impact of fluctuations in foreign currency exchange rates.

(2) Deductions in Allowance for doubtful accounts are from amounts written off as uncollectible or proceeds from subsequent collections. Deductions for Valuation allowances-taxes were primarily from changes in expected deferred tax utilization.

Item 16. FORM 10-K SUMMARY

Not applicable.

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 Company and in the capacities and on the dates indicated.

	Signature and Title	Date
By	<hr/> <p style="text-align: center;">/s/ ALBERT J. NEUPAVER</p> <hr/> <p style="text-align: center;">Albert J. Neupaver, Chairman of the Board</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ RAFAEL SANTANA</p> <hr/> <p style="text-align: center;">Rafael Santana, President and Chief Executive Officer and Director (Principal Executive Officer)</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ JOHN A. OLIN</p> <hr/> <p style="text-align: center;">John A. Olin, Executive Vice President and Chief Financial Officer (Principal Financial Officer)</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ JOHN A. MASTALERZ</p> <hr/> <p style="text-align: center;">John A. Mastalerz, Senior Vice President and Principal Accounting Officer</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ LINDA A. HARTY</p> <hr/> <p style="text-align: center;">Linda A. Harty, Lead Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ BEVERLEY BABCOCK</p> <hr/> <p style="text-align: center;">Beverley Babcock, Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ LEE BANKS</p> <hr/> <p style="text-align: center;">Lee Banks, Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ BYRON FOSTER</p> <hr/> <p style="text-align: center;">Byron Foster, Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ BRIAN P. HEHIR</p> <hr/> <p style="text-align: center;">Brian P. Hehir, Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ WILLIAM E. KASSLING</p> <hr/> <p style="text-align: center;">William E. Kassling, Director</p>	February 15, 2023
By	<hr/> <p style="text-align: center;">/s/ ANN R. KLEE</p> <hr/> <p style="text-align: center;">Ann R. Klee, Director</p>	February 15, 2023

SUBSIDIARIES AND AFFILIATES

Company		Ownership Interest
A and M Signalling Services Private Limited	India	100 %
ABU GmbH	Nordhorn, Germany	24.8 %
AM General Contractors SpA	Genova, Italy	100 %
A M Rail Group Limited	Burton-on-Trent, UK	100 %
A M Signalling Design Limited	Burton-on-Trent, UK	100 %
Annax GmbH	Brunnthal, Germany	100 %
Annax Scheiz AG	Bern, Switzerland	100 %
Annax (Suzhou) Rail Systems Co., Ltd.	Suzhou, China	100 %
Ateliers Hubert Gerken S.A.	Belgium	100 %
Austbreck Pty, Ltd.	Hallam, Victoria, Australia	100 %
Barber Steel Foundry Corp.	Rothbury, Michigan	100 %
Barber Tian Rui Railway Supply LLC	Park Ridge, Illinois	50 %
Bearward Engineering Limited	Northampton, UK	100 %
Becorit GmbH	Recklinghausen, Germany	100 %
Beijing Wabtec Huaxia Technology Company Ltd.	Beijing, China	100 %
Brecknell Willis & Co., Ltd.	Char, Somerset, UK	100 %
Cambridge Forming and Cutting Ltd.	Ontario, Canada	100 %
Changzhou CRRC Wabtec Diesel Engine Company Limited	Changzhou, China	50 %
CoFren S.A.S.	Vierzon, France	100 %
CoFren S.r.l.	Avellino, Italy	100 %
Coleman Hydraulics Limited	Burton-on-Trent, UK	100 %
Datong Faiveley Railway Vehicle Equipment Co. Ltd.	Datong City, China	50 %
Deptol Limited	Dublin, Ireland	100 %
Durox Company	Strongsville, Ohio	100 %
East Erie Commercial Railroad	Erie, Pennsylvania	100 %
E-Carbon Asia Sdn. Bhd.	China	50 %
E-Carbon S.A.	Belgium	100 %
Electrical Carbon UK Limited	United Kingdom	100 %
Evand Pty Ltd.	Wetherill Park, Australia	100 %
Faiveley Rail Engineering Singapore Pte Ltd.	Singapore	50 %
Faiveley Transport Amiens	Amiens, France	100 %
Faiveley Transport Asia Pacific Ltd.	Hong Kong	100 %
Faiveley Transport Australia Ltd.	Rosehill, Australia	100 %
Faiveley Transport Birkenhead Ltd.	Birkenhead, UK	100 %
Faiveley Transport Bochum GmbH	Bochum, Germany	100 %
Faiveley Transport Canada Inc	Montreal, Canada	100 %
Faiveley Transport Czech a.s.	Plzen, Czech Republic	100 %
Faiveley Transport Chile SpA.	Santiago, Chile	100 %
Faiveley Transport Far East Ltd.	Hong Kong	100 %
Faiveley Transport Holding GmbH & Co. KG	Whitten, Germany	100 %
Faiveley Transport Iberica SA	La Selva del Camp, Spain	100 %
Faiveley Transport Italia Spa	Turin, Italy	100 %
Faiveley Transport Korea Ltd.	Seoul, Korea	100 %
Faiveley Transport Leipzig GmbH & Co-KG	Scheiditz, Germany	100 %
Faiveley Transport Metro Technology Shanghai Co. Ltd.	Shanghai, China	100 %
Faiveley Transport Metro Technology Taiwan Ltd.	Taipei, Taiwan	100 %
Faiveley Transport Metro Technology Thailand Co. Ltd.	Bangkok, Thailand	100 %
Faiveley Transport Nordic AB	Landskrona, Sweden	100 %

Faiveley Transport North America Inc	Greenville, South Carolina	100 %
Faiveley Transport Nowe GmbH	Elze, Germany	100 %
Faiveley Transport NSF	Neuville en Ferrain, France	100 %
Faiveley Transport Plezn s.r.o.	Nyrany, Czech Republic	100 %
Faiveley Transport Polska zoo	Poznan, Poland	100 %
Faiveley Transport Rail Technologies India Private Limited	Himachal Pradesh, India	100 %
Faiveley Transport Railway Trading Co. Ltd.	Shanghai, China	100 %
Faiveley Transport SAS	Gennevilliers, France	100 %
Faiveley Transport Schwab AG	Schaffhausen, Switzerland	100 %
Faiveley Transport Schweiz AG	Hagendorf, Switzerland	100 %
Faiveley Transport Service Maroc	Casablanca, Morocco	100 %
Faiveley Transport Systems Technology (Beijing) Co. Ltd.	Beijing, China	100 %
Faiveley Transport Tamworth Ltd.	Tamworth, Staffordshire, UK	100 %
Faiveley Transport Tours	Saint Pierre des Corps, France	100 %
Faiveley Transport Tremosnice s.r.o.	Treomsnice, Czech Republic	100 %
Faiveley Transport USA Inc	Greenville, South Carolina	100 %
Faiveley Transport Verwaltungs GmbH	Scheiditz, Germany	100 %
F.I.P. Pty Ltd.	Sydney, Australia	100 %
FIP Brakes South Africa (Proprietary) Limited	Kempton Park, South Africa	100 %
Fandstan Electric Group, Ltd.	London, UK	100 %
Fandstan Electric, Ltd.	London, UK	100 %
F.T.M.T. Singapore Pte Ltd.	Singapore	100 %
Gerken Group S.A.	Belgium	100 %
Gerken Nordiska Karma Aktiebolag	Sweden	49 %
Gerken SAS	France	100 %
GE (Shijiazhuang) Mining Equipment Co., Ltd.	Shijiazhuang, China	100 %
GE Transportation, A Wabtec Company	Wilmington, Delaware	100 %
Graham White Manufacturing Company	Salem, Virginia	100 %
Huatie Wabtec Faiveley (Qingdao) Transport Equipment Co., Ltd.	Beijing, China	49 %
Hunan Times Wabtec Transportation Equipment Co., Ltd.	Changsha, Hunan, China	50 %
Industrea Chile S.A.	Chile	100 %
Industrea Hong Kong YL Limited	Hong Kong, China	100 %
Industrea Mining Equipment Pty Ltd.	Springfield Central, Australia	100 %
Industrea Mining Technology Pty Ltd.	Fountaindale, Australia	100 %
Industrea Pty Ltd.	North Sydney, Australia	100 %
Industrea Wadam (Beijing) Mining Equipment Technical Services Co., Ltd.	Beijing, China	100 %
Industrea Wadam Pty Ltd.	Burnley, Australia	100 %
Jiaxiang HK Smart Technology Co. Ltd.	Hong Kong, China	100 %
JSC Lokomotiv Kurastyru Zauyty	Kazakhstan	50 %
Keelex 351 Limited	Barton Under Needwood, England	100 %
Komatsu Wabtec Mining Systems, LLC	Wilmington, Delaware	50 %
LH Access Technology Limited	Barton Under Needwood, England	100 %
LH Group Services Limited	Barton Under Needwood, England	100 %
LH Group Wheelsets Limited	Barton Under Needwood, England	100 %
Limited Liability Company Transportation Ukraine	Ukraine	100 %
Locomotive Manufacturing and Services, S.A. de C.V.	Mexico City, Mexico	100 %
Longwood Elastomers, S.A.	Soria, Spain	100 %
Longwood Engineered Products, Inc.	Greensboro, North Carolina	100 %
Longwood International, Inc.	Greensboro, North Carolina	100 %
LWI Elastomers International, S.L.	Madrid, Spain	100 %

LWI International B.V.	Amsterdam, Netherlands	100 %
Medagao (Suzhou) Rubber-Metal Components Co., Ltd.	Suzhou, Jiangsu, China	100 %
Melett (Changzhou) Precision Machinery Co. Limited	Jiangsu, China	100 %
Melett Limited	South Yorkshire, England	100 %
Melett North America, Inc.	Memphis, Tennessee	100 %
Melett Polska Spolka z Ograniczona odpowiedzialnoscia	Bydgos, Poland	100 %
Merz Industrietechnik GmbH	Österreich, Austria	100 %
Metalocaucho, S.L.	Urnieta, Gipuzkoa, Spain	100 %
Mors Smitt France S.A.S.	Sable sur Sarthe, France	100 %
Mors Smitt Holding S.A.S.	Utrecht, Netherlands	100 %
Mors Smitt Technologies, Inc.	Buffalo Grove, Illinois	100 %
Mors Smitt UK Ltd.	West Midlands, UK	100 %
MorsSmitt Asia, Ltd.	Kwun Tong, Hong Kong	100 %
MotivePower, LLC	Boise, Idaho	100 %
MTC India Rubber Metal Components Private Limited	Bangalore, India	100 %
Napier Turbochargers Australia Pty Ltd.	Sydney, NSW, Australia	100 %
Napier Turbochargers Limited	Lincoln, Lincolnshire, UK	100 %
Nordco Enterprises, Inc.	Wilmington, Delaware	100 %
Nordco Holding Company	Wilmington, Delaware	100 %
Nordco Holdings Inc.	Wilmington, Delaware	100 %
Nordco Inc.	Wilmington, Delaware	100 %
Nordco Rail Services, LLC	Hartford, Connecticut	100 %
o.o.o. Faiveley Transport	Leningrad Region, Russia	100 %
Orion Engineering Ltd.	Hong Kong, China	100 %
Pantrac GmbH	Germany	100 %
Parts Supply Limited	Leicestershire, England	100 %
Poli S.r.l.	Camisano, Italy	100 %
Powerhouse Engine Solutions Holding GmbH	Zug, Switzerland	100 %
Powerhouse Engine Solutions Switzerland IP Holdings GmbH	Zug, Switzerland	100 %
Pride Bodies Ltd.	Ontario, Canada	100 %
PT Transportation Solutions Indonesia	Indonesia	100 %
Qingdao Faiveley Sri Rail Brake Co. Ltd.	Qingdao, Shandong, China	50 %
Railcar Management, LLC	Atlanta, Georgia	100 %
Railroad Controls Construction, Inc.	Benbrook, Texas	100 %
Railroad Friction Products Corporation	Maxton, North Carolina	100 %
RCLP Acquisition LLC	Benbrook, Texas	100 %
Relay Monitoring Systems Pty Ltd.	Mulgrave, Australia	100 %
Relco Land Holdings of Cedar Rapids, LLC	Albia, Iowa	100 %
Relco Locomotives, Inc	Albia, Iowa	100 %
RFPC Holding Corp.	Wilmington, Delaware	100 %
Ricon Corp.	San Fernando, California	100 %
SAB Wabco (Investments) Ltd.	Birkenhead, UK	100 %
SAB Wabco UK Ltd.	Birkenhead, UK	100 %
Schaefer Equipment, Inc.	Warren, Ohio	100 %
SCT Europe Ltd.	Kirkcaldy, Fife, UK	100 %
SCT Technology LLC	Wilmington, Delaware	100 %
Semvac A/S	Odense, Denmark	100 %
Shenyang CRRC Wabtec Railway Brake Technology Company, Ltd.	Shenyang, China	50 %
Shijiazhuang Jiaxiang Precision Machinery Co. Ltd.	Shijiazhuang, China	100 %
ShipXpress Technologies (Private) Limited	Nugegoda, Sri Lanka	100 %

Shuttlewagon, Inc.	Wilmington, Delaware	100 %
Speer Carbon Company, LLC	St Marys, Pennsylvania	20 %
Standard Car Truck-Asia, Inc.	Chaoyang District, Beijing	100 %
Stemmann Polska SP Zoo	Katy Wroclawskie, Poland	100 %
Stemmann Technik France SAS	Buchelay, France	100 %
Stemmann-Technik GmbH	Sch✓ttorf, Germany	100 %
Stemmann-Technik Hong Kong Company Limited	Hong Kong, China	100 %
Stemmann-Technik (Shanghai) Ltd.	Shanghai, China	100 %
Super Metal Ltda.	Minas Gerais, Brazil	100 %
TMT Holding AB	Stockholm, Sweden	100 %
Transportation Eastern Europe S.r.l.	Chisinau, Moldova	100 %
Transportation Global Egypt L.L.C.	Egypt	100 %
Transportation Global LLC	Wilmington, Delaware	100 %
Transportation Holdings UK Limited	Altrincham, England	100 %
Transportation IP Holdings, LLC	Wilmington, Delaware	100 %
Transportation Kazakhstan Limited Liability Partnership	Kazakhstan	100 %
Transportation Poland sp. z o.o	Poland	100 %
Transportation Rus Limited Liability Company	Moscow, Russia	100 %
Transportation Services and Technologies Nigeria Ltd.	Lagos, Nigeria	100 %
Transportation Systems and Services Cameroon Ltd.	Cameroon	100 %
Transportation Systems Pakistan (Private) Limited	Lahore, Pakistan	100 %
Transportation Systems Services Operations Inc.	Carson City, Nevada	100 %
TransTech of South Carolina, Inc.	Piedmont, South Carolina	100 %
TRSP Systems and Services Kenya Ltd.	Kenya	100 %
TRSP Systems (Malaysia) SDN. BHD	Malaysia	100 %
Turbonetics Holdings, Inc.	Moorpark, California	100 %
Vapor Ricon Europe Ltd.	Loughborough, Leicestershire, UK	100 %
Wabtec Australia Pty. Limited	Rydalmere, Australia	100 %
Wabtec (Beijing) Investment Co. Ltd.	Beijing, Fengtai District, China	100 %
Wabtec Brasil Fabricacao e Manutencao de Equipamentos Ltda.	Belo Horizonte, Brazil	100 %
Wabtec Components LLC	Park Ridge, Illinois	100 %
Wabtec Corporation	Wilmerding, Pennsylvania	100 %
Wabtec Canada, Inc	Ontario, Canada	100 %
Wabtec China Friction Holding Limited	Hong Kong, China	100 %
Wabtec China Rail Products & Services Holding Limited	Hong Kong, China	100 %
Wabtec Control Systems Pty Ltd.	Osborne Park, Australia	100 %
Wabtec de Mexico, S. de R.L. de C.V.	San Luis Potosi, Mexico	100 %
Wabtec Economic and Trading (Shanghai) Co., Ltd.	Shanghai, China	100 %
Wabtec Egypt for Commercial Agencies	New Cairo, Egypt	100 %
Wabtec Faiveley Rayli Sistemleri Ltd. Sti	Istanbul, Turkey	100 %
Wabtec Faiveley Turkey Ulaşım Sistemleri ve Hizmetleri AŞ	Istanbul, Turkey	100 %
Wabtec France S.A.S.	Paris, France	100 %
Wabtec FRG GmbH	Recklinghausen, Germany	100 %
Wabtec FRG Holdings GmbH & Co. KG	Recklinghausen, Germany	100 %
Wabtec Finance LLC	Wilmington, Delaware	100 %
Wabtec Greenville Real Estate LLC	Greenville, South Carolina	100 %
Wabtec Holding LLC	Wilmington, Delaware	100 %
Wabtec Holdings South Africa (Pty) Ltd.	Johannesburg, South Africa	75 %
Wabtec India Industrial Private Limited	New Delhi, India	100 %
Wabtec International, Inc.	Wilmington, Delaware	100 %

Wabtec Locomotive Private Limited	New Delhi, India	75 %
Wabtec Manufacturing, LLC	Wilmington, Delaware	100 %
Wabtec Manufacturing Mexico S. de R.L. de C.V.	San Luis Potosí, Mexico	100 %
Wabtec Manufacturing Solutions, LLC	Wilmington, Delaware	100 %
Wabtec Mozambique Limitada	Nacala, Mozambique	100 %
Wabtec MZT AD Skopje	Skopje, Macedonia	87 %
Wabtec Poland Sp. z.o.o.	Poznan, Poland	100 %
Wabtec Netherlands B.V.	Amsterdam, Netherlands	100 %
Wabtec Netherlands Holdings B.V.	Amsterdam, Netherlands	100 %
Wabtec Railway Electronics Corporation	Halifax, Nova Scotia, Canada	100 %
Wabtec Railway Electronics Holdings, LLC	Wilmington, Delaware	100 %
Wabtec Railway Electronics Manufacturing, Inc.	Wilmington, Delaware	100 %
Wabtec Railway Electronics, Inc.	Wilmington, Delaware	100 %
Wabtec Receivables LLC	Wilmington, Delaware	100 %
Wabtec Rus LLC	Moscow, Russia	100 %
Wabtec South Africa Proprietary Limited	Kempton Park, South Africa	100 %
Wabtec South Africa Technologies (Pty) Ltd.	Johannesburg, South Africa	100 %
Wabtec Texmaco Rail Private Limited	Kolkata, India	60 %
Wabtec (Tianjin) Electrification Technology Co., Ltd.	TianJin, China	100 %
Wabtec Transportation Canada Inc.	Ontario, Canada	100 %
Wabtec Transportation Egypt Services LLC	Egypt	100 %
Wabtec Transportation Engines Holding B.V.	Breda, Netherlands	100 %
Wabtec Transportation Global Holdings, LLC	Wilmington, Delaware	100 %
Wabtec Transportation GmbH	Frankfurt am Main, Germany	100 %
Wabtec Transportation Group Holdings Pty Ltd.	Richmond, Australia	100 %
Wabtec Transportation Netherlands B.V.	Amsterdam, Netherlands	100 %
Wabtec Transportation Netherlands Holdings B.V.	Amsterdam, Netherlands	100 %
Wabtec Transportation System (Shenyang) Co. Ltd.	Shenyang, China	100 %
Wabtec Transportation Systems Co. Ltd.	Beijing, China	100 %
Wabtec Transportation Systems Limited	Altrincham, England	100 %
Wabtec Transportation Systems, LLC	Wilmington, Delaware	100 %
Wabtec UK Holdings Limited	Staffordshire, England	100 %
Wabtec UK Investments Limited	Manchester, England	100 %
Wabtec UK Limited	Doncaster, S.Yorkshire, UK	100 %
Wabtec US Rail, Inc.	Wilmington, Delaware	100 %
Wabtec-UWC Ltd.	Limassol, Cyprus	51 %
Westinghouse Railway Holdings (Canada) Inc.	Toronto, Ontario, Canada	100 %
Xorail, Inc.	Jacksonville, Florida	100 %
Zhongshan MorsSmitt Relay Ltd.	Zhongshan, China	100 %

Guarantor Subsidiaries of Westinghouse Air Brake Technologies

The obligations under the Company's US Notes and the Restated Credit Agreement have been fully and unconditionally guaranteed by certain of the Company's U.S. subsidiaries. Each guarantor is 100% owned by the parent company, with the exception of GE Transportation, a Wabtec Company, which has 15,000 shares outstanding of Class A Non-Voting Preferred Stock held by General Electric Company. The Euro Notes are issued by Wabtec Netherlands and are fully and unconditionally guaranteed by the Company.

As of December 31, 2022:

The US Notes and Senior Credit Facility

Issuer: Westinghouse Air Brake Technologies Corporation

Guarantors: GE Transportation, a Wabtec Company

RFPC Holding Corp.

Transportation IP Holdings, LLC

Transportation Systems Services Operations Inc.

Wabtec Components, LLC

Wabtec Holding, LLC

Wabtec Railway Electronics Holdings, LLC

Wabtec Transportation Systems, LLC

The Euro Notes

Issuer: Wabtec Transportation Netherlands B.V.

Guarantor: Westinghouse Air Brake Technologies Corporation

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-8 No. 333-53753) pertaining to the 1998 Employee Stock Purchase Plan of Westinghouse Air Brake Technologies Corporation,
- (2) Registration Statement (Form S-8 No. 333-39159) pertaining to the 1997 Executive Retirement Plan of Westinghouse Air Brake Technologies Corporation,
- (3) Registration Statement (Form S-8 No. 333-02979) pertaining to the 1995 Non-Employee Directors' Fee and Stock Option Plan of Westinghouse Air Brake Technologies Corporation,
- (4) Registration Statement (Form S-8 No. 333-115014) pertaining to the 2004 Bonus Plan Agreements of Westinghouse Air Brake Technologies Corporation,
- (5) Registration Statement (Form S-8 No. 333-137985) pertaining to the 2000 Stock Incentive Plan of Westinghouse Air Brake Technologies Corporation,
- (6) Registration Statement (Form S-8 No. 333-41840) pertaining to the 2000 Stock Incentive Plan of Westinghouse Air Brake Technologies Corporation,
- (7) Registration Statement (Form S-8 No. 333-40468) pertaining to the 1995 Non-Employee Directors' Fee and Stock Option Plan of Westinghouse Air Brake Technologies Corporation,
- (8) Registration Statement (Form S-8 No. 333-35744) pertaining to the 2000 Savings Plan of Westinghouse Air Brake Technologies Corporation,
- (9) Registration Statement (Form S-8 No. 333-89086) pertaining to the 2002 Employee Stock Ownership Plan of Westinghouse Air Brake Technologies Corporation,
- (10) Registration Statement (Form S-8 No. 333-179857) pertaining to the 2011 Stock Incentive Plan of Westinghouse Air Brake Technologies Corporation,
- (11) Registration Statement (Form S-8 No. 219662) pertaining to the 1995 Non-Employee Directors' Fee and Stock Option Plan of Westinghouse Air Brake Technologies Corporation,
- (12) Registration Statement (Form S-8 No. 219663) pertaining to the 2011 Stock Incentive Plan of Westinghouse Air Brake Technologies Corporation,
- (13) Registration Statement (Form S-3 No. 333-231125) of Westinghouse Air Brake Technologies Corporation,
- (14) Registration Statement (Form S-3 No. 333-240166) of Westinghouse Air Brake Technologies Corporation,
- (15) Registration Statement (Form S-3 No. 333-248731) of Westinghouse Air Brake Technologies Corporation,
- (16) Registration Statement (Form S-8 No. 333-253256) pertaining to the 2011 Stock Incentive Plan (as Amended and Restated effective May 15, 2020) (as amended by Amendment Number One dated January 14, 2021) of Westinghouse Air Brake Technologies Corporation, and
- (17) Registration Statement (Form S-3 No. 333-256296) of Westinghouse Air Brake Technologies Corporation;

of our reports dated February 15, 2023, with respect to the consolidated financial statements and schedule of Westinghouse Air Brake Technologies Corporation and the effectiveness of internal control over financial reporting of Westinghouse Air Brake Technologies Corporation included in this Annual Report (Form 10-K) of Westinghouse Air Brake Technologies Corporation for the year ended December 31, 2022.

/s/ Ernst & Young LLP
Pittsburgh, Pennsylvania
February 15, 2023

CERTIFICATION

I, Rafael Santana, certify that:

1. I have reviewed this annual report on Form 10-K of Westinghouse Air Brake Technologies Corporation.

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

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

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

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

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

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

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

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

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

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

Date: February 15, 2023

By: _____ /s/ RAFAEL SANTANA
Name: Rafael Santana
Title: President and Chief Executive Officer

CERTIFICATION

I, John A. Olin, certify that:

1. I have reviewed this annual report on Form 10-K of Westinghouse Air Brake Technologies Corporation.

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

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

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

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

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

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

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

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

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

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

Date: February 15, 2023

By: _____ /s/ JOHN A. OLIN
Name: John A. Olin
Title: Executive Vice President and Chief Financial Officer

