UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission File No. 1-11442

CHART INDUSTRIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**34-1712937**
State or other jurisdiction of incorporation or organization	(I.R.S. Employer Identification No.)

2200 Airport Industrial Drive, Suite 100, Ball Ground, Georgia 30107
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: **(770) 721-8800**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01	**GTLS**	**New York Stock Exchange**
Depositary shares, each representing 1/20th interest in a share of 6.75% Series B Mandatory Convertible Preferred Stock, par value $0.01	**GTLS.PRB**	**New York Stock Exchange**

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

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

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

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

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

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

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

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

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

The aggregate market value of the voting common equity held by non-affiliates computed by reference to the price of $144.34 per share at which the common equity was last sold, as of the last business day of the registrant's most recently completed second fiscal quarter, was $6,148,163,455.

As of February 24, 2025, there were 45,688,580 outstanding shares of the Company's common stock, par value $0.01 per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the following document are incorporated by reference into Part III of this Annual Report on Form 10-K: the definitive Proxy Statement to be used in connection with the Registrant's Annual Meeting of Stockholders to be held on May 21, 2025 (the "2025 Proxy Statement").

Except as otherwise stated, the information contained in this Annual Report on Form 10-K is as of December 31, 2024.

CHART INDUSTRIES, INC.

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PART I

Item 1. *Business*

THE COMPANY

Overview

Chart Industries, Inc., a Delaware corporation incorporated in 1992 (the "Company," "Chart," "we," "us," or "our" as used herein refers to Chart Industries, Inc. and our consolidated subsidiaries, unless the context indicates otherwise), is a global leader in the design, engineering, and manufacturing of process technologies and equipment for gas and liquid molecule handling for the Nexus of Clean™ - clean power, clean water, clean food, and clean industrials, regardless of molecule. The Company's unique product and solution portfolio across stationary and rotating equipment is used in every phase of the liquid gas supply chain, including engineering, service and repair and from installation to preventive maintenance and digital monitoring. Chart is a leading provider of technology, equipment and services related to liquefied natural gas ("LNG"), hydrogen, biogas and CO2 capture among other applications. Chart is committed to excellence in environmental, social and corporate governance ("ESG") issues both for its company as well as its customers. With 64 global manufacturing locations and over 50 service centers from the United States to Asia, Australia, India, Europe and South America, we maintain accountability and transparency to our team members, suppliers, customers and communities.

Our primary customers are large, multinational producers and distributors of hydrocarbon, hydrogen and industrial gases and their end-users. We sell our products and services to more than 10,000 customers worldwide, having developed long-standing relationships with leading companies in the gas production, distribution and processing industries as well as those involved in LNG, chemicals and industrial gases.

We have achieved this competitive position by capitalizing on our technical expertise, broad product and service offering, reputation for high quality global manufacturing, and by focusing on attractive, growth markets. We have an established sales and customer support presence across the globe. For the years ended December 31, 2024, 2023 and 2022, we generated sales of $4.2 billion, $3.4 billion, and $1.6 billion, respectively.

On March 17, 2023, we completed the acquisition of Howden from affiliates of KPS Capital Partners (the "Howden Acquisition"). The acquisition purchase price was $4.4 billion, which we financed with proceeds from borrowings under our senior secured revolving credit facility and term loans due March 2030, common and preferred stock issuances and a private offering of secured notes and unsecured notes. Howden is a leading global provider of mission critical air and gas handling products providing service and support to customers around the world in highly diversified end markets and geographies. The combination of Chart and Howden is complementary and furthers our global leadership position in highly engineered process technologies and products serving the Nexus of Clean™.

Segments, Applications and Products

Our reportable segments, which are also our operating segments, are as follows: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing.

We go to market through One Chart global commercial, engineering, products, operations, and aftermarket organizations. Further, our engineered solutions are utilized across a molecule's value chain from production to distribution and storage to consumption. Our Cryo Tank Solutions segment supplies bulk, microbulk and mobile equipment used in the storage, distribution, vaporization, and application of industrial gases and certain hydrocarbons. Our Heat Transfer Systems segment supplies mission critical engineered equipment and systems used in the recovery, separation, liquefaction, and purification of hydrocarbons, LNG and industrial gases that span gas-to-liquid applications. Our Specialty Products segment supplies products used in specialty end-market applications including engineered liquefaction, storage and compression equipment for hydrogen and helium, LNG for over-the-highway vehicles, biofuels, carbon capture, food and beverage, aerospace, nuclear, marine, metals and mining, lasers, gas by rail, energy recovery, infrastructure and water treatment end markets. Our Repair, Service & Leasing segment provides installation, retrofitting and refurbishment, services and repairs, preventative and contractual maintenance, and digital solutions globally in addition to providing targeted equipment leasing solutions.

Further information about these segments is located in Note 4, "Segment and Geographic Information," of our consolidated financial statements included under Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K.

Cryo Tank Solutions

Cryo Tank Solutions (15.3% of consolidated sales for the year ended December 31, 2024) designs and manufactures and supplies bulk, microbulk and mobile equipment used in the storage, distribution, vaporization, and application of industrial gases and certain hydrocarbons. With operations in the United States, Latin America, Europe and Asia, our Cryo Tank Solutions segment serves customers globally.

Industrial Gas Applications

We design and manufacture bulk and packaged gas cryogenic solutions for the storage, distribution, vaporization, and application of industrial gases. Our products span the entire spectrum of industrial gas demand from small customers requiring cryogenic packaged gases to large users requiring custom engineered cryogenic storage systems in both mobile and stationary applications. Using vacuum insulation technology, our cryogenic storage systems are able to store and transport liquefied industrial gases and hydrocarbon gases at temperatures from 0° Fahrenheit to temperatures nearing absolute zero. Industrial gas applications include any end-use of the major elements of air (nitrogen, oxygen, and argon), including manufacturing, welding, electronics and medical. Principal customers for industrial applications are global industrial gas producers and distributors. Other end-users of our equipment include chemical producers, manufacturers of electrical components, health care organizations and companies in the oil and natural gas industries.

Demand for industrial gas applications is driven primarily by the significant installed base of users of molecules, as well as new applications and distribution technologies for cryogenic liquids. Our competitors tend to be regionally focused while we supply a broad range of systems on a worldwide basis. We also compete with several suppliers owned by the global industrial gas producers and in some cases they are also our customer. From a technology perspective, we compete with compressed gas alternatives or on-site generated gas supply.

LNG Applications

We supply cryogenic solutions for the storage, distribution, and use of LNG. LNG may be utilized as an alternative to other fossil fuels such as diesel, propane, or fuel oil in transportation or off pipeline applications. Examples include transit bus transportation, locomotive propulsion, marine, and power generation in remote areas. We refer to our LNG distribution products as a “Virtual Pipeline,” as the traditional natural gas pipeline is replaced with cryogenic distribution to deliver the gas to the end-user. We supply cryogenic trailers, ISO containers, bulk storage tanks, loading facilities, and regasification equipment specially configured for delivering LNG into Virtual Pipeline applications. Additionally, we supply large vacuum insulated storage tanks as equipment for purchasers of standard liquefaction plants sold by our Heat Transfer Systems segment.

Demand for LNG applications is driven by the increasing global need for energy. Our competitors tend to be regionally focused or product-specific, while we supply a broad range of solutions required by LNG applications.

Heat Transfer Systems

Heat Transfer Systems (24.9% of consolidated sales for the year ended December 31, 2024) facilitates natural gas, petrochemical processing, petroleum refining, power generation and industrial gas companies in the production or processing of their products. With primary manufacturing capabilities in the United States and Europe, Heat Transfer Systems serves customers globally. This segment supplies mission critical engineered equipment and technology-driven process systems used in the separation, liquefaction, and purification of hydrocarbon and industrial gases that span most gas-to-liquid applications.

Natural Gas Processing (including Petrochemical) Applications

We provide natural gas processing solutions that facilitate the progressive cooling and liquefaction of hydrocarbon mixtures for the subsequent recovery or purification of component gases. Primary products used in these applications include brazed aluminum heat exchangers, cold boxes, pressure vessels, Core-in-Kettle®, air cooled heat exchangers, and fans. Our brazed aluminum heat exchangers allow producers to obtain purified hydrocarbon by-products, such as methane, ethane, propane, and ethylene, which are commercially marketable for various industrial or residential uses. Our cold boxes are highly engineered systems that incorporate brazed aluminum heat exchangers, pressure vessels, and interconnecting piping used to significantly reduce the temperature of gas mixtures to liquefy component gases so that they can be separated and purified for further use in multiple energy, industrial, scientific, and commercial applications. Chart’s air cooled heat exchangers are used to cool or condense fluids to allow for further processing and for cooling gas compression equipment. Our process technology includes standard and modular plant solutions and comprises detailed mechanical design, Chart manufactured proprietary equipment and all other plant items required to liquefy pipeline quality natural gas. Customers for our natural gas processing applications include large companies in the hydrocarbon processing industry, as well as engineering, procurement and construction (“EPC”) contractors.

Demand for these applications is primarily driven by the growth in the natural gas liquids (or "NGLs") separation and other natural gas segments of the hydrocarbon processing industries, including LNG. Management believes that continuing efforts by petroleum producing countries to better utilize stranded natural gas and associated gases which historically had been flared, present a promising source of demand. We have several competitors for our air cooled heat exchangers and fans, including many smaller fabrication-only facilities around the world. Competition with respect to our more specialized brazed aluminum heat exchangers includes a small number of global (European and Asian) manufacturers.

LNG Applications

We provide process technology, liquefaction capabilities, and independent mission critical equipment for the liquefaction of natural gas (LNG), including small to mid-scale facilities, floating LNG applications, and large base-load export facilities. We are a leading supplier to EPC firms where we provide equipment and process technology, providing an integrated and optimized approach to the project. These process systems incorporate many of Chart's core products, including brazed aluminum heat exchangers, Core-in-Kettle® heat exchangers, cold boxes, air cooled heat exchangers, fans, pressure vessels, and pipe work. These systems are used in global LNG projects, for both local LNG production as well as LNG export terminals. Our proprietary IPSMR® (Integrated Pre-cooled Single Mixed Refrigerant) and IPSMR+® liquefaction process technology offers lower capital expenditure requirements than competing processes measured on a per ton of LNG produced basis, along with very competitive operating costs.

Demand for LNG applications is primarily driven by increased use and global trade in natural gas (transported as LNG) since natural gas offers significant cost advantages over other energy sources. Demand for LNG for fuel applications is also driven by diesel displacement and continuing efforts by petroleum producing countries to better utilize stranded natural gas and previously flared gases.

HVAC, Power and Refining Applications

Our air cooled heat exchangers and axial cooling fans are used in heating, ventilation and air conditioning ("HVAC"), data center, power and refining applications. Demand for HVAC is driven by growing construction activities and demand for energy efficient devices, and there is also positive impact from growing industrial production. Refining demand continues to be driven by United States shale production, benefiting from low cost shale oil, natural gas liquids and gas resulting in high utilization and increased investment. Our air cooled heat exchangers are used in each phase of the refining process to condense and cool gases and fluids.

Specialty Products

Specialty Products (26.8% of consolidated sales for the year ended December 31, 2024) supplies highly-engineered equipment and process technologies used in specialty end-market applications for hydrogen and helium, LNG, biofuels, carbon capture, food and beverage, metals and mining, aerospace, space exploration, lasers, and water treatment, among others. Leveraging our global manufacturing presence, Specialty Products serves customers globally.

We deliver diverse hydrogen solutions which serve both gas and liquid hydrogen across the entire value chain including production (liquefaction), transportation, storage and usage. Further, we have approximately 160 years of experience working with hydrogen-related equipment, and our installed base can be found across the globe. We also manufacture various types of compressors and heat exchangers for hydrogen applications including brazed aluminum, air cooled, and shell & tube varieties in addition to mobile equipment and fueling stations.

In carbon capture, utilization, and storage ("CCUS") markets we provide full solutions, equipment, aftermarket services, and software for applications ranging from cryogenic carbon capture ("CCC") to direct air capture ("DAC"). These solutions target a number of end markets including brewing, winery, dry ice capture, biogas, and industrial. Our technology can be used across a variety of applications since we can capture from both high and low purity carbon streams.

Our water treatment technology is also reflected in the Specialty Products segment. Serving both municipal and industrial end markets globally, our water treatment solutions serve both clean and wastewater applications. Our solution set can also address a wide range of organic and inorganic contaminants including arsenic and per- and polyfluorinated alkylated substances ("PFAS"), often referred to as "forever chemicals."

Demand for many of our specialty applications are driven by an increasing focus on energy security, energy access, and energy/grid stability in addition to customer demand and government support for decarbonization. Additionally, clean water scarcity, increasing demand for energy from applications such as artificial intelligence and data centers, population growth, and aging infrastructure, all drive demand for our specialty applications. While we have competitors in a portion of these applications, many of our specialty product markets have limited competition.

Repair, Service & Leasing

Our Repair, Service & Leasing segment (33.0% of consolidated sales for the year ended December 31, 2024) provides installation, retrofitting & refurbishment, spares, service, repair and maintenance of our products globally in addition to providing equipment leasing solutions to customers globally. We have made a number of organic and inorganic investments over the years to expand our global footprint to include over 50 service centers.

To support the products and solutions we sell, our Repair, Service & Leasing segment offers services through the entire lifecycle of our products, focusing on the optimized performance and lifespan of Chart proprietary equipment. Aftermarket services include extended warranties, plant start-up, parts, 24/7 support, monitoring and process optimization, as well as repair, maintenance, spares, and upgrades.

We install, service, and maintain compressors and other rotating equipment, as well as refurbish bulk and packaged gas cryogenic solutions for the storage, distribution, vaporization, and application of industrial gases. With multiple service locations in the Americas, Europe and Asia, we not only service Chart products, but we also service numerous other manufacturers including many of our competitors. We provide services for storage vessels, VIP, reconfiguration, relocation, trailers, ISO containers, vaporizers, and other gas to liquid equipment.

Additionally, we offer a variety of targeted leasing options on certain types of Chart equipment, providing our customers with the flexibility to quickly respond to seasonal or sudden increases in demand with similar flexibility when existing equipment is being repaired or refurbished.

Uptime™ is our digital platform that seamlessly integrates data related to equipment performance. The system combines active inputs, such as temperature, pressure and vibration, with reference parameters from manuals, specifications and maintenance reports. When the data is analyzed, it provides a unique foundation for maintaining and enhancing operational excellence.

Ventsim™ DESIGN is our proprietary mine ventilation software that is used and trusted by over 2,500 mines, universities, consultants, government and research organizations. Ventsim™ DESIGN is a complete integrated mine and tunnel ventilation software package for the design and testing of ventilation circuits including airflow, pressure, heat, gases, power, radon, fire and many other types of ventilation information.

Demand for services provided by this segment is being driven by our substantial existing and growing install base, exceptional reputation for high-quality service, breadth of services offered and expanded geographic footprint. Additionally, this segment is benefiting from new long-term agreements being executed that incorporate parts, repair and aftermarket service components not included in prior agreements. Our competitors tend to be regionally focused while we supply a broader array of services on a worldwide basis.

Engineering and Product Development

Our engineering and product development activities are focused primarily on developing new and improved technologies, solutions and equipment for the users of molecules, hydrocarbons and industrial gases across all industries served. Our engineering, technical, and commercial employees actively assist customers in specifying their needs and in determining appropriate products to meet those needs. Portions of our engineering expenditures typically are charged to customers, either as separate items or as components of product cost.

Competition

We believe we can compete effectively around the world and that we are a leading competitor in the industries we serve. Competition is based primarily on performance and the ability to provide the design, engineering, and manufacturing capabilities required in a timely and cost-efficient manner. Contracts are usually awarded on a competitive bid basis. Quality, technical expertise, and timeliness of delivery are the principal competitive factors within the industries we serve. Price and terms of sale are also important competitive factors. Although we believe we rank among the leaders in each of the markets we serve and because our equipment is specialized and independent third-party prepared market share data is not available, it is difficult to know for certain our exact position in our markets. We base our statements about industry and market positions on our reviews of annual reports and published investor presentations of our competitors and augment this data with information received by marketing consultants conducting competition interviews and our sales force and field contacts. For information concerning competition within a specific segment of our business, see the descriptions provided under segment captions in this Annual Report on Form 10-K.

Marketing

We market our products and services in each of our segments throughout the world primarily through direct sales personnel and independent sales representatives as well as distributors. The technical and custom design nature of our products requires a professional, highly trained sales force. We use independent sales representatives and distributors to market our products and services in certain foreign countries and in certain North American regions. These independent sales representatives supplement our direct sales force in dealing with language and cultural matters. Our domestic and foreign independent sales representatives earn commissions on sales, which vary by product type.

Backlog

For information about our backlog, including backlog by business segment, see Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Customers

We sell our products primarily to gas producers, distributors, and end-users across energy, industrial, power, HVAC and refining applications in countries throughout the world. Sales to our top ten customers accounted for 26%, 25%, and 38% of consolidated sales in 2024, 2023 and 2022, respectively.

To minimize credit risk from trade receivables, we review the financial condition of potential customers in relation to established credit requirements before sales credit is extended, and we monitor the financial condition of customers to help ensure timely collections and to minimize losses. In addition, for certain domestic and foreign customers, we require advance payments, letters of credit, bankers' acceptances, and other such guarantees of payment. Certain customers also require us to issue letters of credit or performance bonds, particularly in instances where advance payments are involved, as a condition to placing the order.

Intellectual Property

Although we have a number of patents, trademarks, and licenses related to our business, no one of them or related group of them is considered by us to be of such importance that its expiration or termination would have a material adverse effect on our business. In general, we depend upon technological capabilities, manufacturing quality control, and application of know-how, rather than patents or other proprietary rights, in the conduct of our business.

Raw Materials and Suppliers

We manufacture most of the products we sell. The raw materials used in manufacturing include aluminum products (including sheets, bars, plate, and piping), stainless steel products (including sheets, plates, heads, and piping), palladium oxide, carbon steel products (including sheets, plates, and heads), valves and gauges, and fabricated metal components. Most raw materials are available from multiple sources of supply, although shortages and delays to certain materials have been experienced during the past three years, as a result of market disruptions caused by macroeconomic conditions such as inflation and supply chain disruptions. We have long-term relationships with our raw material suppliers and other vendors. Commodity components of our raw material (aluminum, stainless steel and carbon steel) could be subject to tariffs or experience additional levels of volatility during 2025 and may have a relational impact on raw material pricing. Subject to certain short-term risks related to our suppliers as discussed under Item 1A. "Risk Factors," we foresee no acute shortages of any raw materials that would have a material adverse effect on our operations.

Human Capital Resources

As of January 31, 2025, we had 11,928 employees, including 3,938 domestic employees and 7,990 international employees.

We are party to one collective bargaining agreement with the International Association of Machinists and Aerospace Workers ("IAM") covering 387 employees at our La Crosse, Wisconsin heat exchanger facility. Effective February 7, 2021, we entered into a five-year agreement with the IAM which expires on February 6, 2026. Certain international employees are part of trade unions or work councils across Europe, the Americas, Asia and Africa. We have proactive engagement and believe we have positive relations with our employees, including those represented by trade unions and work councils. We have had no material work stoppages.

Chart is committed to attracting and retaining the best talent. Therefore, investing, developing, and maintaining human capital is critical to our success. Chart prioritizes several measures and objectives in managing its human capital assets, including, among others, employee safety and wellness, talent acquisition and retention, employee engagement, development, and training, diversity and inclusion, and compensation and pay equity. In 2024, we did not experience any significant employee-generated work stoppages or disruptions.

Our key human capital measures include employee safety, turnover, absenteeism, recruitment and productivity. We frequently benchmark our compensation practices and benefits programs against those of comparable industries and in the geographic areas where our facilities are located. We believe that our compensation and employee benefits are competitive and allow us to attract and retain skilled and unskilled labor throughout our organization. Our notable health, welfare and retirement benefits include company-subsidized health insurance, 401(k) plan with company matching contributions, tuition assistance program and paid time off.

Employee Safety and Wellness

The safety and well-being of our employees and their families has been a top priority as we continue to serve our customers. Chart has ongoing communications about safety performance at all levels of the organization. Our head of global environmental, health and safety ("EHS") coordinates all EHS matters with our sites, regularly updates our executive staff on our EHS matters and coordinates with our Global Safety Council, which meets monthly to discuss accidents, injuries, near misses, trends and lessons learned. Council members or executive management present metrics and other safety information at every executive staff and Board of Directors meeting. The cross-functional Global Safety Council is dedicated to reaching our target of zero accidents. All Chart employees have Stop Work Authority and are expected to use it if there is concern that any task or procedure could be unsafe. Each site recognizes and rewards employees based on local and global objectives such as achieving safety performance milestones and completing regular audits. All Chart sites implement our Occupational Health and Safety Program Requirements for training, reporting, accident investigation, auditing, implementation, and compliance. The policy encourages employee involvement, a crucial element of a successful safety program, by requiring each site to create a safety committee and safety suggestion program.

Employee Engagement, Development and Training

Chart strives to recruit, hire, develop and promote a qualified workforce. It is our goal to provide each employee a challenging and rewarding experience that allows for personal and professional development. We encourage and support the growth and development of our employees and, wherever possible, seek to fill positions by promotion and transfer from within the organization. We advance continual learning and career development through ongoing performance and development conversations or evaluations with employees, internally and externally developed training programs, and educational reimbursement programs. In connection with the latter, reimbursement is available to employees enrolled in pre-approved degree or certification programs at accredited institutions that teach skills or knowledge relative to our business or otherwise to the development of the employee's skill set or knowledge base. In addition, we routinely invest in seminar, conference and other training or continuing education events for our employees. We believe education empowers our people to identify and adopt best practices that will enhance our sustainability. Our university relations program includes recruitment, co-operative programs and internships. To train a local workforce, our manufacturing facilities forge relationships with community colleges and trade schools and pay their employees based on the job and level of skill.

Other examples of Chart employee development programs include our Emerging Leaders program, Welding Council, Rotational Engineering program, Engineering Fellows, Key Experts program, and Operations Leaders Program, in addition to the aforementioned Global Safety Council. Chart's Emerging Leaders accelerated development program assigns immersive, high-impact projects to high-potential employees across the organization to prepare them for advancement to executive roles. Engineering Fellows are long-tenured employees who are recognized externally and internally as having contributed to our success in unique ways while our Key Experts are widely recognized within Chart for their engineering expertise and contributions to the field. Together, Fellows and Key Experts manage the rotational engineering program to mentor and develop our early-career engineers.

We strive to maintain an inclusive environment free from discrimination of any kind, including sexual or other discriminatory harassment. All employees are expected to follow our Code of Ethics, related policies, laws, rules and regulations in all countries where we operate. In addition, employees have a duty to report violations and have multiple avenues available through which inappropriate behavior can be reported, such as supervisors, managers, ethics representatives or the confidential, anonymous Chart Ethics Hotline. Designated ethics representatives are always available for employees who have questions or need guidance on compliance. All reports of inappropriate behavior are promptly investigated with action taken to stop such behavior. Chart investigates alleged incidents and communicates the resolution to the person who reported it. We prohibit retaliation and threats of retaliation against anyone who reports a possible violation or misconduct in good faith and protect employees with our Whistleblower Policy.

Environmental Matters

We monitor and review our procedures and policies for compliance with environmental laws and regulations. Our management is familiar with these regulations and supports an ongoing program to maintain our adherence to required standards. Our operations have historically included and currently include the handling and use of hazardous and other regulated substances, such as various cleaning fluids used to remove grease from metal that are subject to federal, state, local, and foreign environmental laws and regulations. These regulations impose limitations on the discharge of pollutants into the soil, air, and water and establish standards for their handling, management, use, storage, and disposal.

We are involved with environmental compliance, investigation, monitoring, and remediation activities at certain of our owned or formerly owned manufacturing facilities. We believe that we are currently in substantial compliance with all known environmental regulations. We accrue for certain environmental remediation-related activities for which commitments or remediation plans have been developed or for which costs can be reasonably estimated. These estimates are determined based upon currently available facts regarding each facility. Actual costs incurred may vary from these estimates due to the inherent uncertainties involved. Future expenditures relating to these environmental remediation efforts are expected to be made over the coming years as ongoing costs of remediation programs. We do not believe that these regulatory requirements have had a material effect on our capital expenditures, earnings, or competitive position. We are not anticipating any material capital expenditures in 2025 relating to our existing business that are directly related to regulatory compliance matters. Although we believe we have adequately provided for the cost of all known environmental conditions, additional contamination, the outcome of disputed matters, or changes in regulatory posture could result in more costly remediation measures than budgeted, or those we believe are adequate or required by existing law. We believe that any additional liability in excess of amounts accrued which may result from the resolution of such matters will not have a material adverse effect on our financial position, liquidity, cash flows, or results of operations.

Available Information

Additional information about the Company is available at www.chartindustries.com. On the Investor Relations page of the website, the public may obtain free copies of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable following the time that they are filed with, or furnished to, the Securities and Exchange Commission (“SEC”). Additionally, we have posted our Code of Ethical Business Conduct and Officer Code of Ethics on our website, which are also available free of charge to any stockholder interested in obtaining a copy. References to our website do not constitute incorporation by reference of the information contained on such website, and such information is not part of this Form 10-K.

Item 1A. *Risk Factors*

Investing in our common stock involves risk. You should carefully consider the risks described below, as well as the other information contained in this Annual Report on Form 10-K in evaluating your investment in us. If any of the following risks actually occur, our business, financial condition, operating results, or cash flows could be harmed materially. Additional risks, uncertainties, and other factors that are not currently known to us or that we believe are not currently material may also adversely affect our business, financial condition, operating results or cash flows. In any of these cases, you may lose all or part of your investment in us.

Risks Related to Our Business

The markets we serve are subject to cyclical demand and vulnerable to economic downturn, which could harm our business and make it difficult to project long-term performance.

Demand for our products, particularly in our new equipment business, depends to an extent upon the level of capital and maintenance expenditures by many of our customers and end-users, in particular those customers in the global hydrocarbon and industrial gas markets. These customers’ expenditures historically have been cyclical in nature and vulnerable to economic downturns. Decreased capital and maintenance spending by these customers could have a material adverse effect on the demand for our products and our business, financial condition, and results of operations. In addition, this historically cyclical demand limits our ability to make accurate long-term predictions about the performance of our company.

The loss of, or significant reduction or delay in, purchases by our largest customers could reduce our sales and profitability.

While we sell to more than 10,000 customers, sales to our top ten customers accounted for 26%, 25%, and 38% of consolidated sales in 2024, 2023 and 2022, respectively. While our sales to particular customers fluctuate from period to period, sales to large customers, including the global producers, distributors and users of energy and industrial gases and their suppliers, tend to be a consistently large source of our sales.

The loss of any of our major customers, consolidation of our customers, or a decrease or delay in orders or anticipated spending by such customers could materially reduce our sales and profitability. Although order activity in 2024 increased year over year, we continued to experience energy price volatility and our customers' adjusted project timing.

If we are unable to successfully control our costs and efficiently manage our operations, it may lead to increased costs and reduced profitability.

We have implemented a program of continuous cost savings initiatives to align our business with the current and expected economic conditions. Our ability to operate our business successfully and implement our strategies depends, in part, on our ability to allocate our resources optimally in each of our facilities in order to maintain efficient operations. If we are unable to align our cost structure in response to prevailing economic conditions on a timely basis, or if implementation or failure to implement any cost structure adjustments has an adverse impact on our business or prospects, then our financial condition, results of operations, and cash flows may be negatively affected.

It is critical that we appropriately manage our planned capital expenditures. If we fail to manage the projects related to these capital expenditures in an effective and timely manner, we may lose the opportunity to obtain some new customer orders or the ability to operate our business efficiently. Even if we effectively implement the projects, the orders needed to support the capital expenditures or increased capacity may not be obtained, may be delayed, or may be less than expected, which may result in sales or profitability at lower levels than expected.

We depend on the availability of certain key suppliers; if we experience difficulty with a supplier, we may have difficulty finding alternative sources of supply.

The cost, quality, and availability of raw materials, certain specialty metals and specialized components used to manufacture our products are critical to our success. The materials and components we use to manufacture our products are sometimes custom made and may be available only from a few suppliers, and the lead times required to obtain these materials and components can often be significant. We rely on a limited number of suppliers for some of these materials, including special grades of aluminum used in our brazed aluminum heat exchangers and compressors included in some of our product offerings. If our vendors for these materials and components are unable to meet our requirements, fail to make shipments in a timely manner, or ship defective materials or components, we could experience a shortage or delay in supply or fail to meet our contractual requirements, which would adversely affect our results of operations and negatively impact our cash flow and profitability.

Our results of operations could materially suffer if we are unable to obtain sufficient pricing for our products and services to meet our profitability expectations.

If we are unable to obtain favorable pricing for our products and services in a timely manner, our revenues and profitability could materially suffer. Furthermore, the prices we are able to charge for our products and services are affected by a number of other factors, including:

- general economic and political conditions;
- our customers' desire to reduce their costs;
- the competitive environment;
- our ability to accurately estimate our costs, including our ability to estimate the impact of inflation on our costs over long-term contracts; and
- the procurement practices of our customers.

Our inability to pass increased prices along to our customers in a timely manner could have a material adverse effect on our business, financial condition or results of operations.

Changes in U.S. trade policy, tariff and import/export regulations may have a material adverse effect on our business, financial condition and results of operations.

Our international operations and transactions also depend upon favorable trade relations between the United States and the foreign countries in which our customers and suppliers have operations. Changes in U.S. or international social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories or countries where we currently sell our products or conduct our business, as well as any negative sentiment toward the United States as a result of such changes, could adversely affect our business.

U.S. government policy changes and proposals may result in greater restrictions and economic disincentives on international trade. The new administration has implemented substantial tariffs on China and has threatened tariffs on certain products and other countries. To the extent enacted, the implementation of new tariffs and other changes in U.S. trade policy could trigger retaliatory actions by these and any other affected countries, and certain foreign governments have instituted or have been considering imposing trade sanctions on certain U.S. goods. We do business that could be impacted by changes to the trade policies of the United States and foreign countries (including governmental action related to tariffs, international trade agreements, or economic sanctions). Such changes have the potential to adversely impact the U.S. economy or certain sectors thereof, our industry and the global demand for our products. We may not succeed in developing and implementing policies and strategies to counter the foregoing factors effectively in each location where we do business, and the foregoing factors may cause a reduction in our sales, profitability or cash flows, or cause an increase in our liabilities.

As a global business, we are exposed to economic, political, and other risks in different countries which could materially reduce our sales, profitability or cash flows, or materially increase our liabilities.

Since we manufacture and sell our products worldwide, our business is subject to risks associated with doing business internationally. In 2024, 2023 and 2022, 60%, 59%, and 42%, respectively, of our sales occurred in international markets. Our future results could be harmed by a variety of factors, including:

- changes in foreign currency exchange rates;
- exchange controls and currency restrictions;
- changes in a specific country's or region's political, social or economic conditions, particularly in emerging markets;
- civil unrest, the threat of or actual military conflict between nations, other turmoil or outbreak of disease or illness, such as Covid-19, in any of the countries in which we sell our products or in which we or our suppliers operate;
- tariffs, other trade protection measures, as discussed in more detail above, and import or export licensing requirements;
- potential adverse changes in trade agreements between the United States and foreign countries, including the United States-Mexico-Canada Agreement ("USMCA"), among the United States, Canada and Mexico;
- potentially negative consequences from changes in U.S. and international tax laws;
- difficulty in staffing and managing geographically widespread operations;
- differing labor regulations;
- requirements relating to withholding taxes on remittances and other payments by subsidiaries;
- different regulatory regimes controlling the protection of our intellectual property;
- restrictions on our ability to own or operate subsidiaries, make investments or acquire new businesses in these jurisdictions;
- restrictions on our ability to repatriate dividends from our foreign subsidiaries;
- difficulty in enforcement of contractual obligations under non-U.S. law;
- transportation delays or interruptions;
- changes in regulatory requirements; and
- the burden of complying with multiple and potentially conflicting laws.

Our international operations and sales also expose us to different local political and business risks and challenges. In addition, at times some of our sales are to suppliers that perform work for foreign governments, and as a result we may be subject to the political risks associated with foreign government projects. For example, certain foreign governments may require suppliers for a project to obtain products solely from local manufacturers or may prohibit the use of products manufactured in certain countries.

Our operations in markets such as Asia, Australia, India, Europe, and South America, may cause us difficulty due to greater regulatory barriers than in the United States, the necessity of adapting to new regulatory systems, problems related to entering new markets with different economic, social and political systems and conditions, and significant competition from the primary participants in these markets, some of which may have substantially greater resources than us. In addition, unstable political conditions or civil unrest, including political instability or threatened military actions could negatively impact our order levels and sales in a region or our ability to collect receivables from customers or operate or execute projects in a region.

We carry goodwill and indefinite-lived intangible assets on our balance sheet, which are subject to impairment testing and could subject us to significant non-cash charges to earnings in the future if impairment occurs.

As of December 31, 2024, we had goodwill and indefinite-lived intangible assets of $3,517.3 million, which represented 38.6% of our total assets. Goodwill and indefinite-lived intangible assets are not amortized but are tested for impairment annually in the fourth quarter or more often if events or changes in circumstances indicate a potential impairment may exist. Factors that could indicate that our goodwill or indefinite-lived intangible assets are impaired include a decline in our stock price and market capitalization, lower than projected operating results and cash flows, and slower growth rates in our industry. Our stock price historically has shown volatility and often fluctuates significantly in response to market and other factors. Declines in our stock price, lower operating results and any decline in industry conditions in the future could increase the risk of impairment. Impairment testing incorporates our estimates of future operating results and cash flows, estimates of allocations of certain assets and cash flows among reporting segments, estimates of future growth rates, and our judgment regarding the applicable discount rates used on estimated operating results and cash flows. If we determine at a future time that an impairment exists, it may result in a significant non-cash charge to earnings and lower stockholders' equity.

Our backlog is subject to modification, termination or reduction of orders, which could negatively impact our sales.

Our backlog is comprised of the portion of firm signed purchase orders or other written contractual commitments received from customers that we have not recognized as sales. The dollar amount of backlog as of December 31, 2024 was $4,845.1 million. Our backlog can be significantly affected by the timing of orders for large projects, and the amount of our backlog at December 31, 2024 is not necessarily indicative of future backlog levels or the rate at which backlog will be recognized as sales. Although modifications and terminations of our orders may be fully or partially offset by cancellation fees, customers can, and sometimes do, terminate or modify these orders. We cannot predict whether cancellations will accelerate or diminish in the future. Cancellations of purchase orders, indications that the customers will not perform or reductions of product quantities in existing contracts could substantially and materially reduce our backlog and, consequently, our future sales. Our failure to replace canceled orders could negatively impact our sales and results of operations. We did not have any significant cancellations in 2024, 2023 or 2022.

Due to the nature of our business and products, we may be liable for damages based on product liability and warranty claims.

Due to the high pressures and low temperatures at which many of our products are used, the inherent risks associated with concentrated industrial and hydrocarbon gases, and the fact that some of our products are relied upon by our customers or end-users in their facilities or operations or are manufactured for relatively broad industrial, transportation, or consumer use, we face an inherent risk of exposure to claims in the event that the failure, use, or misuse of our products results, or is alleged to result, in death, bodily injury, property damage, or economic loss. We believe that we meet or exceed existing professional specification standards recognized or required in the industries in which we operate. Although we currently maintain product liability coverage, which has generally been adequate for existing product liability claims and for the continued operation of our business, it includes customary exclusions and conditions, it may not cover certain specialized applications such as aerospace-related applications, and it generally does not cover warranty claims. Additionally, such insurance may become difficult to obtain or be unobtainable in the future on terms acceptable to us. A successful product liability claim or series of claims against us, including one or more consumer claims purporting to constitute class actions or claims resulting from extraordinary loss events, in excess of or outside our insurance coverage, or a significant warranty claim or series of claims against us, could materially decrease our liquidity, impair our financial condition, and adversely affect our results of operations.

Energy policies could change or expected changes could fail to materialize which could adversely affect our business or prospects.

Energy policy can develop rapidly in the global markets we serve. Within the last few years, significant developments have taken place, primarily in international markets that we serve with respect to energy policy and related regulations. We anticipate that energy policy will continue to be an important regulatory priority globally, as well as on a national, state, and local level. In particular, the new administration has signaled potential changes to U.S. energy policy, the potential impact on us which cannot presently be determined. As energy policy continues to evolve, the existing rules and incentives that impact the energy-related segments of our business may change. It is difficult, if not impossible, to predict what changes in energy policy might occur in the future and the timing of potential changes and their impact on our business.

Fluctuations in currency exchange or interest rates may adversely affect our financial condition and operating results.

A significant portion of our revenue and expense is incurred outside of the United States. We must translate revenues, income and expenses, as well as assets and liabilities into U.S. dollars using exchange rates during or at the end of each period. Fluctuations in currency exchange rates have had and will continue to have an impact on our financial condition, operating results, and cash flow. While we monitor and manage our foreign currency exposure with use of derivative financial instruments to mitigate these exposures, fluctuations in currency exchange rates may materially impact our financial and operational results.

In addition, we are exposed to changes in interest rates. While our senior secured and senior unsecured notes have a fixed cash coupon, other instruments, primarily borrowings under our senior secured revolving credit facility due April 2029 are exposed to variable interest rates. Our mandatory convertible preferred stock contains cumulative dividends that can be paid in cash or equity shares. The impact of a 100 basis point increase in interest rates to our senior secured revolving credit facility is discussed in the "Quantitative and Qualitative Disclosures About Market Risk" section of this Annual Report.

We may fail to successfully integrate companies that provide complementary products or technologies.

An important component of our recent business strategy has been the acquisition of businesses that complement our existing products and services. Such a strategy involves the potential risks inherent in assessing the value, strengths, weaknesses, contingent or other liabilities, and potential profitability of acquisition candidates and in integrating the operations of acquired companies. In addition, any acquisitions of businesses with foreign operations or sales may increase our exposure to risks inherent in doing business outside the United States.

As part of this acquisition strategy, we have closed on several acquisitions in the past three years including the Howden Acquisition. These acquisitions included new businesses that are complementary to our existing LNG and gas technologies. The failure to achieve the anticipated cost savings or commercial synergies of our recent significant acquisitions or recognize the anticipated market opportunities or integration from our acquisitions could have a material adverse effect on our business, financial condition, and results of operations. Our ability to realize the expected cost savings and commercial synergies depend on factors such as operating difficulties, increased operating costs, competitors and customers, delays in implementing initiatives and general economic or industry conditions. We may be required to make significant cash expenditures to achieve such cost savings and commercial synergies and we cannot be assured that these expenditures will not be higher than anticipated. Furthermore, there can be no assurances that such cost savings measures will not cause disruptions or other negative impacts to our operations, business or revenues.

There can be no assurances that these acquisitions, including Howden, will realize the expected benefits currently anticipated. For example, we may not be able to maintain the levels of revenue, earnings or operating efficiency that we and Howden have achieved or might have achieved separately. The business and financial performance of us and Howden are subject to certain risks and uncertainties. We may be unable to consistently achieve the same growth, revenues and profitability that we and Howden have achieved in the past.

Potential acquisition opportunities become available to us from time to time, and in line with our financial policy of no material cash acquisitions until we are below 2.5 times net leverage, we periodically engage in discussions or negotiations relating to potential acquisitions. Any acquisition may or may not occur and, if an acquisition does occur, it may not be successful in enhancing our business.

Failure to protect our intellectual property and know-how could reduce or eliminate any competitive advantage and reduce our sales and profitability, and the cost of protecting our intellectual property may be significant.

We rely on a combination of internal procedures, nondisclosure agreements and intellectual property rights assignment agreements, as well as licenses, patents, trademarks and copyright law to protect our intellectual property and know-how. Our intellectual property rights may not be successfully asserted in the future or may be invalidated, circumvented or challenged. For example, we frequently explore and evaluate potential relationships and projects with other parties, which often require that we provide the potential partner with confidential technical information. While confidentiality agreements are typically put in place, there is a risk the potential partner could violate the confidentiality agreement and use our technical information for its own benefit or the benefit of others or compromise the confidentiality. In addition, the laws of certain foreign countries in which our products may be sold or manufactured do not protect our intellectual property rights to the same extent as the laws of the United States. In addition, the United States has transitioned from a "first-to-invent" to a "first-to-file" patent system, which means that between two identical, pending patent applications, the first inventor no longer receives priority on the patent to the invention. As a result, the Leahy-Smith America Invents Act may require us to incur significant additional expense and effort to protect our intellectual property. Failure or inability to protect our proprietary information could result in a decrease in our sales or profitability.

We have obtained and applied for some U.S. and foreign trademark and patent registrations and will continue to evaluate the registration of additional trademarks and patents, as appropriate. We cannot guarantee that any of our pending applications will be approved. Moreover, even if the applications are approved, third parties may seek to oppose or otherwise challenge them. A failure to obtain registrations in the United States or elsewhere could limit our ability to protect our trademarks and technologies and could impede our business. Further, the protection of our intellectual property may require expensive investment in protracted litigation and the investment of substantial management time, and there is no assurance we ultimately would prevail or that a successful outcome would lead to an economic benefit that is greater than the investment in the litigation. The patents in our patent portfolio are scheduled to expire from 2025 to 2044.

In addition, we may be unable to prevent third parties from using our intellectual property rights and know-how without our authorization or from independently developing intellectual property that is the same as or similar to ours, particularly in those countries where the laws do not protect our intellectual property rights as fully as in the United States. We compete in a number of industries (e.g., heat exchangers and cryogenic storage) that are small or specialized, which makes it easier for a competitor to monitor our activities and increases the risk that ideas will be stolen. The unauthorized use of our know-how by third parties could reduce or eliminate any competitive advantage we have developed, cause us to lose sales or otherwise harm our business or increase our expenses as we attempt to enforce our rights.

Data privacy and data security considerations could impact our business.

The interpretation and application of data protection laws are evolving. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our data security practices. Complying with these various laws is difficult and could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business.

Despite our efforts to protect sensitive information and confidential and personal data, comply with applicable laws, rules and regulations and implement data security measures, our facilities and systems may be vulnerable to security breaches and other data loss, including cyber-attacks. In addition, it is not possible to predict the impact on our business of the future loss, alteration or misappropriation of information in our possession related to us, our employees, former employees, customers, suppliers or others. This could lead to negative publicity, legal claims, theft, modification or destruction of proprietary information or key information, damage to or inaccessibility of critical systems, manufacture of defective products, production downtimes, operational disruptions and other significant costs, which could adversely affect our reputation, financial condition and results of operations.

We are subject to potential insolvency or financial distress of third parties.

We are exposed to the risk that third parties to various arrangements who owe us money or goods and services, or who purchase goods and services from us, will not be able to perform their obligations or continue to place orders due to insolvency or financial distress. If third parties fail to perform their obligations under arrangements with us, we may be forced to replace the underlying commitment at current or above market prices or on other terms that are less favorable to us or we may have to write off receivables in the case of customer failures to pay. If this happens, whether as a result of the insolvency or financial distress of a third party or otherwise, we may incur losses, or our results of operations, financial position or liquidity could otherwise be adversely affected.

We may be required to make expenditures in order to comply with environmental, health and safety laws and emissions regulations, or incur additional liabilities under these laws and regulations.

We are subject to numerous environmental, health and safety laws and regulations that impose various environmental controls on us or otherwise relate to environmental protection and various health and safety matters, including the discharge of pollutants in the air and water, the handling, use, treatment, storage and clean-up of solid and hazardous materials and wastes, the investigation and remediation of soil and groundwater affected by hazardous substances and the requirement to obtain and maintain permits and licenses. These laws and regulations often impose strict, retroactive and joint and several liability for the costs and damages resulting from cleaning up our or our predecessors' facilities and third-party disposal sites. Compliance with these laws generally increases the costs of transportation and storage of raw materials and finished products, as well as the costs of storing and disposing waste, and could decrease our liquidity and profitability and increase our liabilities. If we are found to have violated any of these laws, we may become subject to corrective action orders and fines or penalties, and incur substantial costs, including substantial remediation costs and commercial liability to our customers. Further, we also could be subject to future liability resulting from conditions that are currently unknown to us that could be discovered in the future.

We are currently remediating or developing work plans for remediation of environmental conditions involving certain current facilities. We have also been subject to environmental liabilities for other sites where we formerly operated or at locations where we or our predecessors did or are alleged to have operated. To date, our environmental remediation expenditures and costs for otherwise complying with environmental laws and regulations have not been material, but the uncertainties associated with the investigation and remediation of contamination and the fact that such laws or regulations change frequently makes predicting the cost or impact of such laws and regulations on our future operations uncertain. Stricter environmental, emissions of greenhouse gases, safety and health laws, regulations or enforcement policies could result in substantial costs and liabilities to us and could subject us to more rigorous scrutiny. Consequently, compliance with these laws could result in significant expenditures, as well as other costs and liabilities that could decrease our liquidity and profitability and increase our liabilities.

We operate in many different jurisdictions, and we could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act and similar worldwide anti-corruption laws.

The U.S. Foreign Corrupt Practices Act ("FCPA") and similar worldwide anti-corruption laws generally prohibit companies and their intermediaries from making improper payments for the purpose of obtaining or retaining business. Our internal policies mandate compliance with these anti-corruption laws. We operate in many parts of the world that have experienced corruption to some degree, and in certain circumstances, strict compliance with anti-corruption laws may conflict with local customs and practices. Despite our training and compliance programs, we cannot assure you that our internal control policies and procedures always will protect us from reckless or criminal acts committed by our employees or agents. Our continued expansion outside the United States, including in developing countries, could increase the risk of such violations in the future. Violations of these laws, or allegations of such violations, could disrupt our business and result in a material adverse effect on our results of operations or financial condition.

Our operations could be impacted by the effects of severe weather.

Some of our operations, including our operations in the U.S. Gulf Coast, are located in geographic regions and physical locations that are susceptible to physical damage and longer-term economic disruption from severe weather and changes in weather patterns. We also could make significant future capital expenditures in hurricane-susceptible or other severe weather locations from time to time. These weather events can disrupt our operations, result in damage to our properties and negatively affect the local economy in which these facilities operate. Severe weather and related changes may cause production or delivery delays as a result of the physical damage to the facilities, the unavailability of employees and temporary workers, the shortage of or delay in receiving certain raw materials or manufacturing supplies and the diminished availability or delay of transportation for customer shipments, any of which may have an adverse effect on our sales and profitability. Although we maintain insurance subject to certain deductibles, which may cover some of our losses, that insurance may become unavailable or prove to be inadequate.

A public health crisis could cause disruptions to our operations which could adversely affect our business in the future.

A significant public health crisis could cause disruptions to our operations similar to the effects of the Covid-19 pandemic. Covid-19 affected our business primarily due to the impact on the global economy, including its effects on transportation networks, raw material availability, production efforts and customer demand for our products. Our ability to predict and respond to future changes resulting from a potential health crisis is uncertain. Even after a public health crisis subsides, there may be long-term effects on our business practices and customers in economies in which we operate that could severely disrupt our operations and could have a material adverse effect on our business, results of operations, cash flows and financial condition.

We are subject to regulations governing the export of our products.

Our export activities are subject to regulation, including the U.S. Treasury Department's Office of Foreign Assets Control's regulations. We believe we are in compliance with these regulations and maintain robust programs intended to maintain compliance. However, unintentional lapses in our compliance or uncertainties associated with changing regulatory requirements could result in future violations (or alleged violations) of these regulations. Any violations may subject us to government scrutiny, investigation and civil and criminal penalties and may limit our ability to export our products.

As a provider of products to the U.S. government, we are subject to certain federal rules, regulations, audits and investigations, the violation or failure of which could adversely affect our business.

From time to time, certain of our products and services may be provided to the U.S. government; and, therefore, we must comply with and are affected by laws and regulations governing purchases by the U.S. government. Although we are not subject to all contractor requirements, the generally more extensive requirements governing "Government contract laws and regulations" affect how we do business with our government customers and, in some instances, impose added costs on our business. For example, a violation of specific laws and regulations could result in the imposition of fines and penalties or the termination of our contracts or debarment from bidding on contracts. In some instances, these laws and regulations impose terms or rights that are more favorable to the government than those typically available to commercial parties in negotiated transactions.

Tax rules are subject to change, and unanticipated changes in our effective tax rate could adversely affect our future results.

Our future results of operations could be affected by changes in the effective tax rate as a result of changes in tax laws, regulations and judicial rulings. In December 2017, the Tax Cuts and Jobs Act of 2017 was signed into law in the United States, which among other things, lowered the federal corporate income tax rate from 35% to 21% and moved the country towards a territorial tax system with a one-time mandatory tax on previously deferred foreign earnings of foreign subsidiaries. There can be no assurances that the benefit we have derived from the Tax Cuts and Jobs Act will be maintained long-term given political and other uncertainties.

The Organisation for Economic Co-operation and Development ("OECD")'s base erosion and profit shifting ("BEPS") project is an area we continue to monitor due to its global reach. The OECD, which represents a coalition of member countries, has issued recommendations that, in some cases, would make substantial changes to numerous long-standing tax positions and principles. As countries, in which we operate, continue to pass laws to adopt the tenants of the BEPS Framework (tiered adoption over multiple years), we will continue to monitor potential impacts to the Company's tax stature. These contemplated changes have begun adoption by various countries during 2023, could increase tax uncertainty and may adversely affect our provision for income taxes. We will continue to monitor developments and impacts to our provision for income taxes.

Our effective tax rate could also be adversely affected by changes in the mix of earnings and losses in countries with differing statutory tax rates, certain non-deductible expenses arising from share-based compensation, the valuation of deferred tax assets and liabilities and changes in accounting principles. In addition, we are subject to income tax audits by many tax jurisdictions throughout the world. Although we believe our income tax liabilities are reasonably estimated and accounted for in accordance with applicable laws and principles, an adverse resolution of one or more uncertain tax positions in any period could have a material impact on the results of operations for that period.

We could be obligated to make significant contributions to our pension plans, some of which are underfunded, and we contribute to a multi-employer plan for collective bargaining U.S. employees, which is underfunded.

Certain U.S. hourly and salaried employees are covered by our Chart defined benefit pension plan. The defined benefit pension plan has been frozen since February 2006. In May 2024, our Board of Directors approved a resolution to terminate the Chart defined benefit pension plan and notified plan participants of the termination and the distribution alternatives. As of December 31, 2024, the projected benefit obligation under our Chart defined benefit pension plan was $39.5 million, and the value of the assets of the plan was $43.1 million. Although our Chart defined benefit pension plan was fully funded as of December 31, 2024, the performance of assets in the plan and other related factors beyond our control have the potential to adversely affect the funding status of our pension plan in the future.

We have responsibility for ten defined benefit plans outside of the United States, which are predominantly in Germany. As of December 31, 2024, the aggregate projected benefit obligation of these pension plans was $39.2 million, and the aggregate value of the assets of these pension plans was $42.4 million, resulting in these pension plans being overfunded by $3.2 million in the aggregate. However, certain of these plans are in an underfunded status as of December 31, 2024.

We are also a participant in a multi-employer plan, which is underfunded. Among other risks associated with multi-employer plans, contributions and unfunded obligations of the multi-employer plan are shared by the plan participants and we may inherit unfunded obligations if other plan participants withdraw from the plan or cease to participate. Additionally, if we elect to stop participating in the multi-employer plan, we may be required to pay amounts related to withdrawal liabilities associated with the underfunded status of the plan. If the performance of the assets in our defined benefit plans or the multi-employer plan does not meet expectations or if other actuarial assumptions are modified, our required pension contributions for future years could be higher than we expect, which may negatively impact our results of operations, cash flows and financial condition.

Dividend requirements associated with the Series B Mandatory Convertible Preferred Stock that Chart issued to fund a portion of the Howden Acquisition subject it to certain risks.

In December 2022, we issued 8,050,000 depositary shares, each representing a 1/20th interest in a share of Chart's Series B Mandatory Convertible Preferred Stock (the "Mandatory Convertible Preferred Stock"). Any future payments of cash dividends, and the amount of any cash dividends we pay, on the Mandatory Convertible Preferred Stock will depend on, among other things, business condition, our financial condition, earnings and liquidity, as well as other factors that our board of directors (or an authorized committee thereof) may consider relevant. Dividends will accumulate from the initial issue date and, to the extent that we are legally permitted to pay dividends and our board of directors, or an authorized committee thereof, declares a dividend payable with respect to the Mandatory Convertible Preferred Stock, we will pay such dividends in cash, or subject to certain limitations, by delivery of shares of our common stock or through any combination of cash and shares of our common stock, as determined by our board of directors in its sole discretion. Any unpaid dividends will continue to accumulate.

The terms of the Mandatory Convertible Preferred Stock further provide that if dividends have not been declared and paid for six or more dividend periods whether or not for consecutive dividend periods, the holders of such shares of Mandatory Convertible Preferred Stock, voting together as a single class with holders of all other preferred stock of equal rank having similar voting rights, will be entitled at our next annual or special meeting of stockholders to vote for the election of a total of two additional members of our board of directors, subject to certain limitations.

Risks Related to Our Leverage

Our leverage and future debt service obligations could adversely affect our business, financial condition, and results of operations and our ability to meet our payment obligations under our debt.

We are leveraged and have future debt service obligations. As of December 31, 2024, our total indebtedness was \$3,757.5 million. In addition, at that date, under our senior secured revolving credit facility, we had \$277.5 million of letters of credit and bank guarantees outstanding and borrowing capacity of \$767.5 million. Through separate facilities, our subsidiaries had \$173.8 million of letters of credit and bank guarantees outstanding at December 31, 2024.

Our level of indebtedness could have significant consequences, including:

- reduced availability of cash for our operations and other business activities;
- difficulty in obtaining financing in the future;
- exposure to risk of increased interest rates on variable rate indebtedness under our senior secured revolving credit facility and term loans;
- vulnerability to general economic downturns and adverse industry conditions;
- increased competitive disadvantage compared to our competitors that have less debt or are less leveraged;
- adverse customer reaction to our debt levels;
- inability to comply with covenants in, and potential for default under, our debt instruments; and
- failure to refinance any of our debt. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources."

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to sell assets, seek additional capital or seek to restructure or refinance our indebtedness. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations. We may be unable to consummate those asset sales to raise capital or sell assets at prices that we believe are fair and proceeds that we do receive may be inadequate to meet any debt service obligations then due.

We may incur substantial additional indebtedness, which could further exacerbate the risks that we face.

We may be able to incur substantial additional indebtedness in the future. The terms of our debt instruments do not fully prohibit us from doing so. Our senior secured revolving credit facility provides commitments of up to \$1,250.0 million, \$767.5 million of which would have been available for future borrowings (after giving effect to letters of credit and bank guarantees outstanding) as of December 31, 2024. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Debt Instruments and Related Covenants." If new debt is added to our current debt levels, the related risks that we now face could intensify.

The terms of our existing debt may limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

The terms of our existing debt impose, and the terms of any future indebtedness may impose, operating and other restrictions on us and our subsidiaries. Such restrictions affect or will affect, and in various circumstances limit or prohibit, among other things, our ability and the ability of our subsidiaries to:

- incur or guarantee additional indebtedness;
- create liens;
- pay dividends based on our leverage ratio and make other distributions in respect of our capital stock;
- redeem or buy back our capital stock based on our leverage ratio;
- make certain investments or certain other restricted payments;

- enter into a new line of business;
- sell or transfer certain kinds of assets;
- enter into certain types of transactions with affiliates; and
- effect mergers or consolidations.

The senior secured revolving credit facility due April 2029 also requires us to achieve certain financial and operating results and maintain compliance with specified financial ratios. Our ability to comply with these ratios may be affected by events beyond our control.

The restrictions contained in the senior secured revolving credit facility and our indentures could:

- limit our ability to plan for or react to market or economic conditions or meet capital needs or otherwise restrict our activities or business plans; and
- adversely affect our ability to finance our operations, acquisitions, investments or strategic alliances or other capital needs or to engage in other business activities that would be in our interest.

A breach of any of these covenants could result in a default under our debt agreements. If an event of default occurs under our debt agreements, which includes an event of default under the other debt agreements, the lenders or holders could elect to declare all indebtedness outstanding, together with accrued and unpaid interest, to be immediately due and payable. The lenders under our senior secured revolving credit facility will also have the right in these circumstances to terminate any commitments they have to provide further financing.

If we were unable to repay or otherwise refinance this indebtedness when due, our lenders could sell the collateral securing the senior secured revolving credit facility due April 2029 and the secured notes, which constitutes substantially all of our domestic wholly-owned subsidiaries' assets.

Our Senior Secured Notes due 2030 and our Senior Unsecured Notes due 2031 have certain change in control features which, if triggered, may adversely affect our financial condition.

Upon the occurrence of certain kinds of change of control, we will be required to offer to repurchase all of the outstanding secured notes and unsecured notes at 101% of the principal amount thereof plus accrued and unpaid interest, if any, to the date of repurchase. However, there can be no assurance that we will have sufficient funds at the time of the change in control to purchase all of the secured notes or unsecured notes delivered for purchase, and we may not be able to arrange necessary financing on acceptable terms, if at all.

Risks Related to the Trading Market for Our Preferred and Common Stock

The issuance of common stock upon conversion of 6.75% Series B Mandatory Convertible Preferred Stock could cause dilution to the interests of our existing stockholders.

Unless earlier converted, each share of the Mandatory Convertible Preferred Stock will automatically convert on or around December 15, 2025 into between 7.0520 and 8.4620 shares of our common stock, subject to customary anti-dilution adjustments. At any time prior to December 15, 2025, a holder of Mandatory Convertible Preferred Stock may elect to convert such holder's shares of the Mandatory Convertible Preferred Stock, in whole or in part, at the minimum conversion rate of 7.0520 shares of common stock per share. If a fundamental change occurs on or prior to December 15, 2025, holders of the Mandatory Convertible Preferred Stock will have the right to convert their shares of Mandatory Convertible Preferred Stock, in whole or in part, into shares of common stock at a conversion rate based on the effective date of the fundamental change and the price paid (or deemed paid) per share of our common stock in such fundamental change. We may also pay declared dividends in cash or, subject to certain limitations, in shares of common stock or in any combination of cash and common stock. Conversion of the Mandatory Convertible Preferred Stock into common stock, as well as the payment of dividends in shares of common stock, could be dilutive to our existing stockholders.

Our common stock ranks junior to the Mandatory Convertible Preferred Stock with respect to dividends and amounts payable in the event of our liquidation, dissolution or winding-up of our affairs.

Our common stock ranks junior to the Mandatory Convertible Preferred Stock with respect to the payment of dividends and amounts payable in the event of our liquidation, dissolution or winding-up of our affairs. This means that, unless accumulated dividends have been paid or set aside for payment on all the outstanding Mandatory Convertible Preferred Stock through the most recently completed dividend period, no dividends may be declared or paid on our common stock subject to limited exceptions. Likewise, in the event of our voluntary or involuntary liquidation, dissolution or winding-up of our affairs, no distribution of our assets may be made to holders of our common stock until we have paid to holders of the Mandatory Convertible Preferred Stock a liquidation preference equal to $1,000 per share plus accumulated and unpaid dividends.

Item 1B. *Unresolved Staff Comments*

Not applicable.

Item 1C. *Cybersecurity*

Risk Management and Strategy

We have established processes for assessing, identifying, and managing material risks associated with cybersecurity threats, as defined in Item 106(a) of Regulation S-K. These risks include, among other things: operational risks, intellectual property theft, fraud, extortion, harm to employees or customers and violation of data privacy or security laws.

During 2024, we realized our objective of having no material cybersecurity incidents. Furthermore, we have not experienced any material information security breaches and have not incurred material expenses from cybersecurity incidents, including those arising at third parties, during any of the last three years.

By prioritizing cybersecurity at the highest level of our leadership, we assess cybersecurity risk, allocate resources and maintain a culture of cybersecurity awareness throughout Chart. Chart ties cybersecurity or being cyber safe to our key theme of safety, as an industrial manufacturer. Identifying and assessing cybersecurity risk is integrated into our overall risk management systems and processes. Cybersecurity risks related to our business, technical operations, privacy and compliance issues are identified and addressed through third-party assessments, internal IT Audit, IT security, governance, risk and compliance reviews. To defend, detect and respond to cybersecurity incidents, we, among other programs: conduct proactive privacy and cybersecurity reviews of systems and applications, audit applicable data policies, perform penetration testing using external third-party tools and techniques to test security controls, encourage proactive vulnerability reporting, conduct employee training, monitor emerging laws and regulations related to data protection and information security and implement appropriate changes.

We have incident response and breach management processes which occur in stages starting with preparation for cybersecurity incidents followed by detection and analysis of cybersecurity incidents, containment, eradication and recovery, and post-incident analysis. Such incident responses are overseen by leaders from our information security, compliance and legal teams. Security events and data incidents are evaluated, ranked by severity, and prioritized for response and remediation. Incidents are evaluated to determine materiality as well as operational and business impact and reviewed for privacy impact.

We also simulate responses to cybersecurity incidents by conducting tabletop exercises. Our cybersecurity professionals then collaborate with technical and business stakeholders across our business units to further analyze the risk to the company, and form detection, mitigation, and remediation strategies.

As part of the above processes, we regularly engage external auditors and consultants to assess our internal cybersecurity programs and compliance with applicable practices and standards. In past years, our Information Security Management System has continued to work a Plan of Action and Milestones ("POAM") tied to the United States Cybersecurity Maturity Model Certification ("CMMC") program, formerly the National Institute of Standards and Technology ("NIST") Cybersecurity Framework, while looking for synergies across other standards, such as the Information Assurance Technical Framework ("IATF"), or as required for specific product lines or customers. Furthermore, we benchmark externally against other industrial manufacturers within the B2B (Business to Business) manufacturing industry, and even to a vertical level to determine Chart's risk profile through cybersecurity insurance tools that rank companies and bring them together within forums for cyber intelligence sharing and best practices.

Our risk management program also assesses third-party risks to identify and mitigate risks from vendors, suppliers, and other business partners associated with our use of third-party service providers. Cybersecurity risks are evaluated when determining the selection and oversight of applicable third-party service providers and potential fourth-party risks when handling and/or processing our employee, business or customer data. In addition, we strive to have the appropriate cybersecurity clauses in our agreements and where necessary we have Data Processing Agreements ("DPAs") put in place for privacy of data.

We describe whether and how risks from identified cybersecurity threats, including as a result of any previous cybersecurity incidents, have materially affected or are reasonably likely to materially affect us, including our business strategy, results of operations, or financial condition, under the heading "*Data privacy and data security considerations could impact our business*" included as part of our risk factor disclosures at Item 1A of this Annual Report on Form 10-K.

Governance

Cybersecurity is an important part of our risk management processes and an area of focus for our Board and management. Our Audit Committee is responsible for the oversight of risks from cybersecurity threats. The Board receives updates on a regular basis from senior management, including leaders from our information security, compliance and legal teams regarding matters of cybersecurity. This includes existing and new cybersecurity risks, status on how management is addressing and/or mitigating those risks, cybersecurity, and data privacy incidents (if any) and status of key information security initiatives. Our Board members also engage in ad hoc conversations with management on cybersecurity-related news events and discuss any updates to our cybersecurity risk management and strategy programs.

Our cybersecurity risk management and strategy processes are overseen by leaders from our information security, compliance and legal teams. The Board of Directors and Chart senior management recognize cybersecurity as a company-wide risk, and the chief information officer/chief information security officer ("CIO/CISO"), as a member of the Chart senior management, works to organize these functional teams given the individual's experience and background of over 25 years within various IT roles, including the build out of the cybersecurity capability within Chart and at prior companies. Individuals that oversee cybersecurity risk management have an average of over 20 years of prior work experience in various roles involving information technology, including security, auditing, compliance, systems and programming. These individuals monitor the prevention, mitigation, detection and remediation of cybersecurity incidents through their management of, and participation in, the cybersecurity risk management and strategy processes described above, including our incident response plan, and report to the Audit Committee on any appropriate items.

Item 2. *Properties*

We occupy 159 facilities throughout the world totaling approximately 13.0 million square feet with the majority devoted to manufacturing, assembly, and storage, none of which are individually material. Of these facilities, approximately 8.9 million square feet are owned, and approximately 4.1 million square feet are occupied under operating leases. Because Chart is global in nature, with substantial inter-segment cooperation, properties are often used by multiple business segments.

Regulatory Environment

We are subject to federal, state, and local regulations relating to the discharge of materials into the environment, production and handling of hazardous and regulated materials, and the conduct and condition of our production facilities. We do not believe that these regulatory requirements have had a material effect on our capital expenditures, earnings, or competitive position. We are not anticipating any material capital expenditures in 2025 that are directly related to regulatory compliance matters. We are also not aware of any pending or potential regulatory changes that would have a material adverse impact on our business.

Item 3. *Legal Proceedings*

We are occasionally subject to various legal claims related to performance under contracts, product liability, taxes, employment matters, environmental matters, intellectual property, and other matters incidental to the normal course of our business. Based on our historical experience in litigating these claims, as well as our current assessment of the underlying merits of the claims and applicable insurance, if any, management believes that the final resolution of these matters will not have a material adverse effect on our financial position, liquidity, cash flows, or results of operations, except that our results of operations for any particular reporting period may be adversely affected by any potential or actual loss that is accrued in such period. Future developments may, however, result in resolution of these legal claims in a way that could have a material adverse effect.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

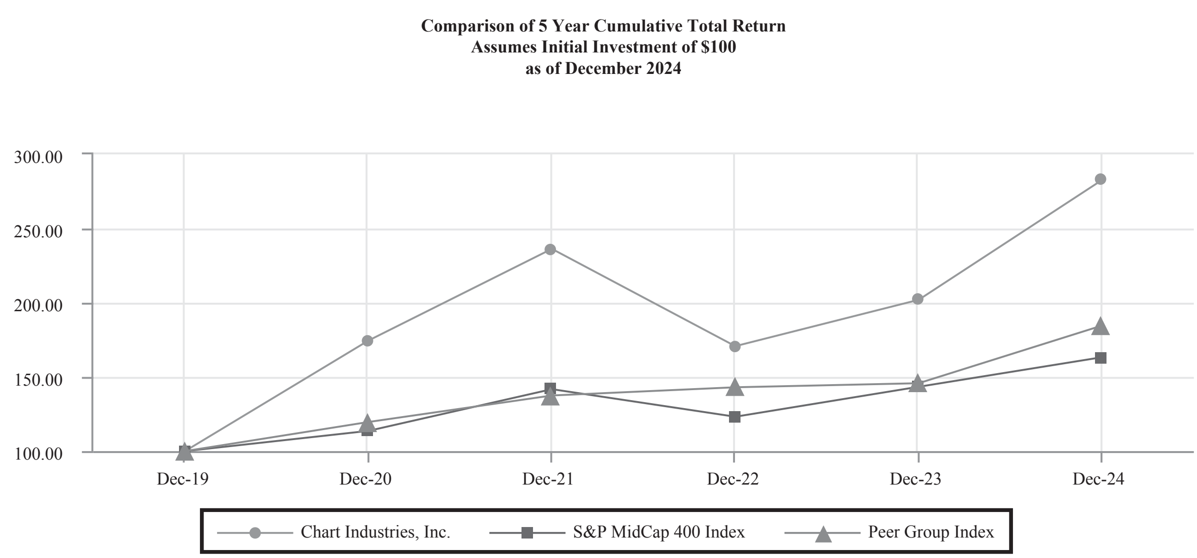
Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities***

Chart's common stock is traded on the New York Stock Exchange under the symbol "GTLS." As of January 31, 2025, there were 269 holders of record of our common stock. Since many holders hold shares in "street name," we believe that there are a significantly larger number of beneficial owners of our common stock than the number of record holders.

Apart from the dividend requirements associated with our 6.75% Series B Mandatory Convertible Preferred Stock, we do not currently intend to pay any cash dividends on our common stock, and instead intend to retain earnings, if any, for debt reduction, organic capital expenditures for productivity and capacity and, in line with our financial policy of no material cash acquisitions until we are below 2.5 times net leverage, potential acquisitions. The amounts available to us to pay future cash dividends may be restricted by our 2026 Credit Facilities to the extent our pro forma leverage ratio exceeds certain targets. Any decision to declare and pay dividends in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions, and other factors that our board of directors may deem relevant.

Cumulative Total Return Comparison

Set forth below is a line graph comparing the cumulative total return of a hypothetical investment in the shares of common stock of Chart with the cumulative return of a hypothetical investment in each of the S&P MidCap 400 Index and our Peer Group Index based on the respective market prices of each such investment on the dates shown below, assuming an initial investment of $100 on December 31, 2019, including reinvestment of dividends, if any.



	December 31,					
	2019	2020	2021	2022	2023	2024
Chart Industries, Inc.	**$ 100.00**	**$ 174.53**	**$ 236.32**	**$ 170.74**	**$ 202.00**	**$ 282.77**
S&P MidCap 400 Index	100.00	113.65	141.76	123.19	143.38	163.30
Peer Group Index	100.00	119.63	137.50	143.03	145.77	184.64

We select the peer companies that comprise the Peer Group Index solely on the basis of objective criteria. These criteria result in an index composed of oil field equipment/service and other comparable industrial companies. The Peer Group Index is comprised of Air Products and Chemicals, Inc., Atlas Copco AB, Baker Hughes Company, Barnes Group Inc., Burckhardt Compression Holding AG, ChampionX Corporation, Cheniere Energy, Inc., CIMC Enric Holdings Limited, CNH Industrial N.V., EnPro Inc., ESCO Technologies Inc., Franklin Electric Co., Inc., IDEX Corporation, ITT Inc., New Fortress Energy LLC, NIKKISO CO., LTD., Plug Power Inc., SPX Corporation and Worthington Enterprises, Inc.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

	Issuer Purchases of Equity Securities			
Period	**Total Number of Shares Purchased** [1]	**Average Price Paid Per Share** [1]	**Total Number of Shares Purchased As Part of Publicly Announced Plans or Programs** [2]	**Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs**
October 1 - 31, 2024	14	$ 126.01	—	$ —
November 1 - 30, 2024	1,088	179.96	—	—
December 1 - 31, 2024	51	202.35	—	—
Total	1,153	$ 180.30	—	$ —

(1) Includes shares of common stock surrendered to us during the fourth quarter of 2024 by participants under our share-based compensation plans to satisfy tax withholding obligations relating to the vesting or payment of equity awards for an aggregate purchase price of approximately $207,900. The total number of shares repurchased represents the net shares issued to satisfy tax withholding. All such repurchased shares were subsequently retired during the three months ended December 31, 2024.

(2) On December 11, 2024, our Board of Directors authorized a share repurchase program for up to $250.0 million of the Company's common stock through various means, including open market transactions, block purchases, privately negotiated transactions or otherwise in accordance with applicable federal securities laws, including Rule 10b-18 and Rule 10b5-1 of the Securities Exchange Act of 1934, as amended. The program may be modified, discontinued or suspended at any time without prior notice. We reiterate our financial policy of no share repurchases until we are below 2.5 times net leverage.

Item 6. [Reserved]

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

The following discussion of our results of operations and financial condition should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements. Actual results may differ materially from those discussed below. See "Forward-Looking Statements" at the end of this discussion and Item 1A. "Risk Factors" for a discussion of the uncertainties, risks and assumptions associated with this discussion.

Overview

Chart Industries, Inc. is a global leader in the design, engineering, and manufacturing of process technologies and equipment for gas and liquid molecule handling for the Nexus of Clean™ - clean power, clean water, clean food, and clean industrials, regardless of molecule. The Company's unique product and solution portfolio across stationary and rotating equipment is used in every phase of the liquid gas supply chain, including engineering, service and repair and from installation to preventive maintenance and digital monitoring. Chart is a leading provider of technology, equipment and services related to LNG, hydrogen, biogas and CO2 capture among other applications. Chart is committed to excellence in ESG issues both for its company as well as its customers. With 64 global manufacturing locations and over 50 service centers from the United States to Asia, Australia, India, Europe the Middle East, Africa and South America, we maintain accountability and transparency to our team members, suppliers, customers and communities.

On March 17, 2023, we completed the acquisition of Howden (the "Howden Acquisition"), a leading global provider of mission critical air and gas handling products and services, from affiliates of KPS Capital Partners, LP. Results from continuing operations include results of Howden from the date of acquisition and exclude Roots™ ("Roots") business financial results for our entire ownership period of March 17, 2023 through the divestiture date, August 18, 2023. The financial information presented and discussion of results that follows is presented on a continuing operations basis unless stated otherwise.

Macroeconomic Impacts

Geopolitical instability continues to create uncertainty in the global economy, including the current conflict between Russia and Ukraine and the related sanctions imposed by countries against Russia, along with the heightened tensions between the United States and China. Moreover, unrest in the Middle East may impact our business and operations and has strained global supply chains, including those dependent on Red Sea shipping routes. Also, a substantial amount of uncertainty exists regarding the impact of international monetary and trade policies on our business and markets, including possible continued volatility in interest rates and inflation, as well as the unknown impact of recent or threatened changes to U.S. governmental trade policies, including tariffs on China, certain products, and potentially other countries, as well as the possible impact of any retaliatory tariffs on products from the United States. Additionally, geopolitical uncertainty regarding energy policies may affect the timing of certain projects. We are unable to predict the impact these actions will have on the global economy or on our business, financial condition and results of operations. These events did not have a material adverse effect on our reported results for 2024. We continue to actively monitor the impact of these macroeconomic developments on our results of operations beyond 2024.

Environmental, Social, Governance

Chart is proud to be at the forefront of the energy transition as a leading provider of technology, equipment and services related to LNG, hydrogen & helium, biogas, carbon capture and water treatment, among other applications. We also have a unique offering for the Nexus of Clean™ – clean power, clean water, clean food and clean industrials. Reporting our ESG performance is one of the ways we demonstrate accountability and transparency to our team members, suppliers, customers, shareholders and communities. Further information can be found in our Annual Sustainability report which we expect to release in April 2025.

2024 Highlights

Comparisons included in the discussion that follows are for fiscal year 2024 versus fiscal year 2023. A discussion of changes from fiscal year 2022 to fiscal year 2023 and other financial information related to fiscal year 2022 is available in Part II. Item 7. Management's Discussion and Analysis of Financial Conditional and Results of Operations, of our Annual Report on Form 10-K, for the fiscal year ended December 31, 2023, which was filed with the SEC on February 28, 2024.

Strong order activity contributed to ending total backlog of $4,845.1 million as of December 31, 2024 compared to $4,278.8 million as of December 31, 2023. We had consolidated orders of $5,006.8 million for the year ended December 31, 2024 compared to $4,140.2 million for the year ended December 31, 2023. The increase in orders versus the year ended

December 31, 2023 was largely driven by strong order activity in Heat Transfer Systems, Specialty Products, and Repair, Service & Leasing.

Consolidated sales were $4,160.3 million in the year ended December 31, 2024 compared to $3,352.5 million in the year ended December 31, 2023 with growth in all four segments when removing any impact related to foreign currency fluctuations. Consolidated gross profit margin for the year ended December 31, 2024 of 33.4% increased from 31.0% for the year ended December 31, 2023. Operating margin for the year ended December 31, 2024 of 15.6% increased from 11.7% for the year ended December 31, 2023. The increases in gross profit margin and operating margin from the year ended December 31, 2023 were driven by our continued execution of commercial and cost synergies, improved mix of the business as well as improved selling, general and administrative expenses as a percentage of sales.

Operating Results

The following table sets forth the percentage relationship that each line item in our consolidated statements of income represents to sales for the years ended December 31, 2024 and 2023:

	2024	2023
Sales	100.0 %	100.0 %
Cost of sales	66.6	69.0
Gross profit	33.4	31.0
Selling, general and administrative expenses [(1)]	13.2	14.5
Amortization expense	4.7	4.9
Operating income	15.6	11.7
Acquisition related finance fees	—	0.8
Interest expense, net	7.9	8.6
Other expense (income), net	—	0.5
Income tax expense, net	1.9	0.1
Net income from continuing operations	5.7	1.7
Loss from discontinued operations, net of tax	(0.1)	—
Net income	5.6	1.7
Less: Income attributable to noncontrolling interests of continuing operations, net of taxes	0.3	0.3
Net income attributable to Chart Industries, Inc.	5.3	1.4

(1) Includes share-based compensation expense of $18.9 million and $12.6 million, representing 0.5% and 0.4% of sales, for the years ended December 31, 2024 and 2023.

Consolidated Results for the Years Ended December 31, 2024 and 2023

The following table includes key metrics used to evaluate our business and measure our performance and represents selected financial data for our operating segments for the years ended December 31, 2024 and 2023 (dollar amounts in millions). Further detailed information regarding our operating segments is presented in Note 4, "Segment and Geographic Information," of the consolidated financial statements included under Item 15 "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K.

Selected Segment Financial Information

	Year Ended December 31,	
	2024	2023
Sales		
Cryo Tank Solutions	$ 637.9	$ 640.8
Heat Transfer Systems	1,035.3	891.2
Specialty Products	1,114.3	819.9
Repair, Service & Leasing	1,372.7	1,029.2
Intersegment eliminations	0.1	(28.6)
Consolidated	$ 4,160.3	$ 3,352.5
Gross Profit		
Cryo Tank Solutions	$ 143.5	$ 132.0
Heat Transfer Systems	299.0	246.8
Specialty Products	301.1	221.4
Repair, Service & Leasing	645.2	440.2
Consolidated	$ 1,388.8	$ 1,040.4
Gross Profit Margin		
Cryo Tank Solutions	22.5 %	20.6 %
Heat Transfer Systems	28.9 %	27.7 %
Specialty Products	27.0 %	27.0 %
Repair, Service & Leasing	47.0 %	42.8 %
Consolidated	33.4 %	31.0 %
SG&A Expenses		
Cryo Tank Solutions	$ 61.2	$ 70.9
Heat Transfer Systems	45.6	54.1
Specialty Products	106.6	82.6
Repair, Service & Leasing	150.0	116.1
Corporate	184.0	162.6
Consolidated	$ 547.4	$ 486.3
SG&A Expenses (% of Sales)		
Cryo Tank Solutions	9.6 %	11.1 %
Heat Transfer Systems	4.4 %	6.1 %
Specialty Products	9.6 %	10.1 %
Repair, Service & Leasing	10.9 %	11.3 %
Consolidated	13.2 %	14.5 %
Operating Income (Loss)		
Cryo Tank Solutions	$ 74.6	$ 54.5
Heat Transfer Systems	233.3	175.8
Specialty Products	173.1	119.7
Repair, Service & Leasing	350.5	203.3
Corporate	(184.0)	(162.6)
Consolidated	$ 647.5	$ 390.7

Operating Margin		
Cryo Tank Solutions	11.7 %	8.5 %
Heat Transfer Systems	22.5 %	19.7 %
Specialty Products	15.5 %	14.6 %
Repair, Service & Leasing	25.5 %	19.8 %
Consolidated	15.6 %	11.7 %

Results of Operations for the Years Ended December 31, 2024 and 2023

Sales in 2024 increased by $807.8 million from $3,352.5 million to $4,160.3 million, or 24.1%. When removing the negative foreign currency impacts of $27.1 million, all four segments' sales increased year over year. This increase was driven largely by Howden results impacting the entire first quarter of 2024 versus a partial period in the first quarter of 2023, commercial synergies achieved in the Repair, Service & Leasing segment, strong execution of the backlog in Heat Transfer Systems as well as higher sales in Specialty Products.

Gross profit in 2024 increased by $348.4 million from $1,040.4 million to $1,388.8 million or 33.5% compared to 2023. The increase in gross profit was primarily driven by higher sales and improved margins, which were largely attributed to a higher mix of Repair, Service & Leasing sales along with improved productivity. Gross profit margin of 33.4% in 2024 increased from 31.0% in 2023. The increase in gross profit margin for 2024 compared to 2023 was primarily driven by a higher mix of aftermarket service & repair work and achievement of both cost and commercial synergies across all segments.

Consolidated SG&A expenses increased by $61.1 million or 12.6% during 2024 compared to 2023 largely driven by Howden results impacting the entire first quarter of 2024 versus a partial period in the first quarter of 2023 as well as higher information technology related integration costs. Restructuring costs recorded to SG&A were $12.5 million and $13.0 million. SG&A expenses as a percentage of consolidated sales for 2024 decreased by 1.3% as compared to 2023 primarily due to continued cost and commercial synergies achieved.

Operating income increased by $256.8 million or 65.7% from $390.7 million to $647.5 million compared to 2023, driven by a full year of Howden included in the results, the increase in sales, higher gross profit and associated gross profit margins. Operating margin increased from 11.7% in 2023 to 15.6% driven by cost reduction and productivity improvements as well as better leverage of the fixed cost structure of the business.

Acquisition Related Finance Fees

Acquisition related finance fees for the year ended December 31, 2023 were $26.1 million related to bridge loan financing for our acquisition of Howden, which did not recur in 2024.

Interest Expense, Net

The following table presents the components of interest expense, net (dollars in millions):

	Year Ended December 31,	
	2024	2023
Interest expense term loans due March 2030	$ 133.0	$ 119.5
Interest expense senior secured notes due 2030	108.9	109.7
Interest expense senior unsecured notes due 2031	48.2	48.6
Interest expense senior secured revolving credit facility due April 2029	30.3	27.7
Interest expense convertible notes due November 2024	2.5	2.4
Financing costs amortization	19.1	17.2
Interest income	(11.2)	(26.4)
Capitalized interest	(6.3)	(4.6)
Discontinued operations interest expense, net	—	(8.9)
Other	4.0	3.9
Interest expense, net	$ 328.5	$ 289.1

The increase in interest expense, net, is primarily due to higher borrowings outstanding, specifically our term loans due March 2030, which were outstanding for a full twelve months in 2024 as compared to nine and a half months in 2023. Furthermore, interest expense, net for 2023, included $21.5 million in interest income earned from deposits of proceeds from the senior secured notes due 2030, senior unsecured notes due 2031, common stock and preferred stock offerings into interest bearing accounts until the consummation of the Howden Acquisition.

Other Expense (Income), Net

Other expense (income), net decreased by $17.0 million from $17.5 million in 2023 to $0.5 million in 2024. This decrease was mainly driven by a $25.1 million decrease in unrealized losses on our investments in equity securities and a $7.1 million decrease in losses on extinguishment of debt. This was partially offset by a $13.3 million increase in other expenses, primarily driven by a $7.8 million loss on sale of business in 2024 for customary closing working capital adjustments, which related to the sale of our American Fan and Cofimco businesses and occurred in the first quarter of 2024, compared to a $4.6 million net gain on sale of business in 2023, which related to the sale of our American Fan, Cryo Diffusion and Cofimco businesses.

During 2024, we recognized an unrealized gain on investments of $10.7 million, which was mainly driven by a fair value adjustment (an unrealized gain) based on an observable price change relative to our investment in Avina Clean Hydrogen Inc. of $11.2 million. During 2023, we recognized an unrealized loss on investments in equity securities of $14.4 million, which was primarily driven by an unrealized loss of $12.7 million on the mark-to-market adjustment of our investment in McPhy (Euronext Paris: MCPHY - ISIN; FR0011742329).

Income Tax Expense

Income tax expense of $78.6 million and $3.0 million for the years ended December 31, 2024 and 2023, respectively, represents taxes on both U.S. and foreign earnings at a combined effective income tax rate of 24.7% and 5.2%, respectively. The effective income tax rate of 24.7% for the year ended December 31, 2024 differed from the U.S. federal statutory rate of 21% due primarily to the effect of income earned by certain of our foreign entities being taxes at higher rates than the federal statutory rate and the build of valuation allowances against specific deferred tax assets offset by the benefits of U.S. taxation of international operations optimization, research and development tax credit benefits and favorable provision to return adjustments.

The effective income tax rate of 5.2% for the year ended December 31, 2023 differed from the U.S. federal statutory rate of 21% primarily due to tax benefits associated with the Howden integration, release of previously booked valuation allowances, research and developments credits and share-based compensation offset of income earned by certain of our foreign entities being taxed at higher rates than the federal statutory rate.

Net Income Attributable to Chart Industries, Inc. From Continuing Operations

As a result of the foregoing, net income attributable to Chart Industries, Inc. from continuing operations was $222.0 million and $47.9 million for 2024 and 2023, respectively.

Discontinued Operations

The financial results of the Roots business are reflected in our consolidated financial statements as discontinued operations for the years ended December 31, 2024 and 2023. For further information, refer to Note 3, "Discontinued Operations and Other Businesses Sold" of our consolidated financial statements included under Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K.

Segment Results for the Years Ended December 31, 2024 and 2023

Our reportable and operating segments include: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing. Corporate includes certain unallocated operating expenses for executive management, accounting, tax, treasury, corporate development, human resources, information technology, investor relations, legal, internal audit, and risk management. For further information, refer to Note 4, "Segment and Geographic Information" of our consolidated financial statements included under Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K. The following tables include key metrics used to evaluate our business and measure our performance and represents selected financial data for our operating segments for the years ended December 31, 2024 and 2023 (dollar amounts in millions):

Cryo Tank Solutions—Results of Operations for the Years Ended December 31, 2024 and 2023

	Year Ended December 31,		2024 vs. 2023	
	2024	2023	Variance ($)	Variance (%)
Sales	$ 637.9	$ 640.8	$ (2.9)	(0.5)%
Gross Profit	143.5	132.0	11.5	8.7 %
Gross Profit Margin	22.5 %	20.6 %		
SG&A Expenses	$ 61.2	$ 70.9	$ (9.7)	(13.7)%
SG&A Expenses (% of Sales)	9.6 %	11.1 %		
Operating Income	$ 74.6	$ 54.5	$ 20.1	36.9 %
Operating Margin	11.7 %	8.5 %		

Cryo Tank Solutions segment sales decreased by $2.9 million during 2024 as compared to 2023 to $637.9 million. Cryo Tank Solutions sales were negatively impacted by foreign currency impacts of about $5.5 million.

Cryo Tank Solutions segment gross profit increased by $11.5 million during 2024 as compared to 2023 due to margin expansion in engineered tanks and our general industrial products.

Cryo Tank Solutions SG&A expenses decreased during 2024 as compared to 2023, and SG&A expenses as a percentage of sales improved by 150 basis points. The decrease in SG&A expenses in both absolute dollars and as a percentage of sales is due to improved resource utilization and realized synergies in both our cost structure and commercial activities.

Cryo Tank Solutions segment operating income improved $20.1 million or 36.9% and operating margin improved from 8.5% to 11.7% primarily as a result the improved gross margin generated in engineered tanks and general industrial products as well as the generation of comparable year over year sales while decreasing our SG&A expenses.

Heat Transfer Systems—Results of Operations for the Years Ended December 31, 2024 and 2023

	Year Ended December 31,		2024 vs. 2023	
	2024	2023	Variance ($)	Variance (%)
Sales	$ 1,035.3	$ 891.2	$ 144.1	16.2 %
Gross Profit	299.0	246.8	52.2	21.2 %
Gross Profit Margin	28.9 %	27.7 %		
SG&A Expenses	$ 45.6	$ 54.1	$ (8.5)	(15.7)%
SG&A Expenses (% of Sales)	4.4 %	6.1 %		
Operating Income (Loss)	$ 233.3	$ 175.8	$ 57.5	32.7 %
Operating Margin	22.5 %	19.7 %		

Heat Transfer Systems segment sales increased by $144.1 million to $1,035.3 million during 2024 as compared to 2023. Heat Transfer Systems sales were negatively impacted by foreign currency impacts of about $2.4 million. The increase in sales was driven primarily by increased sales in traditional energy and LNG.

Heat Transfer Systems segment gross profit increased by $52.2 million during 2024 as compared to 2023, and gross profit margin increased by 120 basis points. The increase in Heat Transfer Systems segment gross profit was primarily due to volume, and the increase in the related margin was mainly due to overall product and project volume mix.

Heat Transfer Systems segment SG&A expenses decreased by $8.5 million during 2024 as compared to 2023, and SG&A expenses as a percentage of sales improved by 170 basis points. The decrease in SG&A expenses in both absolute dollars and as a percentage of sales is due to improved resource allocation and realized synergies in both our cost structure and commercial activities.

Heat Transfer Systems segment operating income improved $57.5 million or 32.7% and operating margin improved from 19.7% to 22.5% during 2024 as compared to 2023 through increased sales and gross margin improvement as well as improved leverage of the SG&A expenses.

Specialty Products—Results of Operations for the Years Ended December 31, 2024 and 2023

	Year Ended December 31,		2024 vs. 2023	
	2024	2023	Variance ($)	Variance (%)
Sales	$ 1,114.3	$ 819.9	$ 294.4	35.9 %
Gross Profit	301.1	221.4	79.7	36.0 %
Gross Profit Margin	27.0 %	27.0 %		
SG&A Expenses	106.6	$ 82.6	$ 24.0	29.1 %
SG&A Expenses (% of Sales)	9.6 %	10.1 %		
Operating Income	173.1	$ 119.7	$ 53.4	44.6 %
Operating Margin	15.5 %	14.6 %		

Specialty Products segment sales increased by $294.4 million to $1,114.3 million during 2024 as compared to 2023. Specialty Products segment sales were negatively impacted by foreign currency impacts of about $8.6 million. The increase in Specialty Products sales was driven by Howden results impacting the entire first quarter of 2024 versus a partial period in the first quarter of 2023 as well as the conversion of backlog related to hydrogen, mining, space, carbon capture and water treatment applications.

Specialty Products segment gross profit increased by $79.7 million during 2024 as compared to 2023 largely due to the additional sales while margin was flat. The flat margin is largely impacted by start up costs associated with the ramp up of the new facility addition in Theodore, Alabama.

Specialty Products segment SG&A expenses increased by $24.0 million during 2024 as compared to 2023 primarily driven by ownership of Howden for the entire period of 2024 versus a partial period in 2023 as well as increased sales.

Specialty Products segment operating income increased by $53.4 million during 2024 as compared to 2023 driven by higher sales and improved SG&A costs as a percentage of sales. This improvement also led to an increase in operating margin from 14.6% in 2023 to 15.5% in 2024.

Repair, Service & Leasing—Results of Operations for the Years Ended December 31, 2024 and 2023

	Year Ended December 31,		2024 vs. 2023	
	2024	2023	Variance ($)	Variance (%)
Sales	$ 1,372.7	$ 1,029.2	$ 343.5	33.4 %
Gross Profit	645.2	440.2	205.0	46.6 %
Gross Profit Margin	47.0 %	42.8 %		
SG&A Expenses	$ 150.0	$ 116.1	$ 33.9	29.2 %
SG&A Expenses (% of Sales)	10.9 %	11.3 %		
Operating Income	$ 350.5	$ 203.3	$ 147.2	72.4 %
Operating Margin	25.5 %	19.8 %		

Repair, Service & Leasing segment sales increased by $343.5 million to $1,372.7 million during 2024 as compared to 2023. Repair, Service & Leasing segment sales were negatively impacted by foreign currency impacts of about $10.6 million. The increase in Repair, Service & Leasing sales was driven by Howden results impacting the entire first quarter of 2024 versus a partial period in the first quarter of 2023 as well as increased field service work.

Repair, Service & Leasing segment gross profit increased by $205.0 million to $645.2 million during 2024 as compared to

2023, and gross profit margin increased by 420 basis points to 47.0%. The increase in gross profit was largely driven by Howden results impacting the entire 2024 year versus part of 2023. The gross profit margin was impacted by synergies achieved as well as field service work that took place during the second and third quarters of 2024.

Repair, Service & Leasing segment SG&A expenses increased by $33.9 million during 2024 as compared to 2023. SG&A expenses as a percentage of sales improved by 40 basis points. The increase in SG&A expenses was largely driven by the ownership of Howden for all of 2024 versus part of 2023 as well as increased sales.

Repair, Service & Leasing segment operating income improved by $147.2 or 72.4% largely driven by the increased sales and improved gross profit. Additionally, the 40 basis point reduction in SG&A as a percentage of sales also contributed to the improved operating margin which increased from 19.8% in 2023 to 25.5% in 2024.

Corporate

Corporate SG&A expenses increased by $21.4 million during 2024 as compared to 2023 driven by a full year of Howden related costs in 2024 versus part of 2023, increased centralization of IT spend and ongoing integration activities.

Orders and Backlog

We consider orders to be those for which we have received a firm signed purchase order or other written contractual commitment from the customer. Backlog is comprised of the portion of firm signed purchase orders or other written contractual commitments from customers for which work has not been performed, or is partially completed, that we have not recognized as revenue and excludes unexercised contract options and potential orders. Our backlog as of December 31, 2024, and 2023 was $4,845.1 million and $4,278.8 million. Backlog is subject to foreign currency translation. During the year ended December 31, 2024, adjustments resulting from translation reduced backlog by $82.8 million.

The tables below represent orders received and backlog by segment for the periods indicated (dollar amounts in millions):

	Year Ended December 31,	
	2024	2023
Orders		
Cryo Tank Solutions	$ 582.9	$ 608.8
Heat Transfer Systems	1,467.7	1,114.2
Specialty Products	1,562.0	1,341.6
Repair, Service & Leasing	1,393.3	1,100.8
Intersegment eliminations	0.9	(25.2)
Consolidated	$ 5,006.8	$ 4,140.2

	As of December 31,	
	2024	2023
Backlog		
Cryo Tank Solutions	$ 290.3	$ 361.9
Heat Transfer Systems	2,097.4	1,716.5
Specialty Products	1,888.1	1,631.1
Repair, Service & Leasing	577.1	587.9
Intersegment eliminations	(7.8)	(18.6)
Consolidated	$ 4,845.1	$ 4,278.8

Orders and Backlog for the Year Ended and As of December 31, 2024 Compared to the Year Ended and As of December 31, 2023

Cryo Tank Solutions segment orders for 2024 were $582.9 million, as compared to $608.8 million for 2023, a decrease of $25.9 million. Cryo Tank Solutions orders were negatively impacted by foreign currency fluctuations by about $7.1 million. The remaining decrease was primarily driven by two large rail car orders we received in 2023 that did not repeat in 2024. Cryo Tank Solutions segment backlog totaled $290.3 million as of December 31, 2024, compared to $361.9 million as of December 31, 2023, a decrease of $71.6 million.

Heat Transfer Systems segment orders for 2024 were $1,467.7 million compared to $1,114.2 million for 2023, an increase of $353.5 million. The increase in orders across the segment was driven by increased orders for data centers as well as LNG including a large order in the fourth quarter for IPSMR® process technology and associated LNG equipment. Heat Transfer Systems segment backlog totaled a $2,097.4 million as of December 31, 2024 compared to $1,716.5 million as of December 31, 2023, an increase of $380.9 million.

Specialty Products segment orders for 2024 were $1,562.0 million compared to $1,341.6 million for 2023, an increase of $220.4 million. Specialty Products segment orders were negatively impacted by foreign currency fluctuations by about $16.3 million. The increase in orders was driven by increased orders in hydrogen, carbon capture, infrastructure, space and metals end markets. Specialty Products segment backlog totaled a $1,888.1 million as of December 31, 2024, compared to $1,631.1 million as of December 31, 2023, an increase of $257.0 million.

Repair, Service & Leasing segment orders for 2024 were $1,393.3 million compared to $1,100.8 million in 2023, an increase of $292.5 million. The increase was driven by the impacts of a full year of the Howden in 2024 versus a partial year in 2023 and growth in aftermarket repair and services. Repair, Service & Leasing segment backlog totaled $577.1 million as of December 31, 2024, compared to $587.9 million as of December 31, 2023, a decrease of $10.8 million.

Liquidity and Capital Resources

Our debt instruments and related covenants are described in Note 10, “Debt and Credit Arrangements,” of our consolidated financial statements included under Item 15, “Exhibits and Financial Statement Schedules” of this Annual Report on Form 10-K.

Sources and Uses of Cash

Our cash and cash equivalents totaled $308.6 million as of December 31, 2024, which represents an increase of $120.3 million from the balance at December 31, 2023. Our foreign subsidiaries held cash of $281.6 million and $170.1 million at December 31, 2024 and 2023, respectively. No material restrictions exist to accessing cash held by our foreign subsidiaries. Cash equivalents are primarily invested in money market funds that invest in high quality, short-term instruments, such as U.S. government obligations, certificates of deposit, repurchase obligations, and commercial paper issued by corporations that have been highly rated by at least one nationally recognized rating organization, and in the case of cash equivalents in China, obligations of local banks. We believe that our existing cash and cash equivalents, funds available under our senior secured revolving credit facility due April 2029 or other financing alternatives, and cash provided by operations will be sufficient to meet our normal working capital needs, capital expenditures, debt repayments and investments for the foreseeable future.

Years Ended December 31, 2024 and 2023

Cash provided by operating activities during 2024 was $503.0 million, an increase of $335.8 million from 2023, primarily due to operating performance and cash management. This was partially offset by higher interest payments in 2024. Additionally, 2023 operating cash flows was impacted by the settlement of claims related to the Pacific Fertility Clinic lawsuits in the amount of $73.0 million.

Cash used in investing activities during 2024 and 2023 was $141.3 million and $3,990.1 million, respectively. During 2024 we used $120.8 million for capital expenditures and $13.1 million for investments, primarily Hy24. During 2023 we used $4,322.3 million of cash for the Howden Acquisition, $135.6 million for capital expenditures, and $11.6 million for investments, primarily Avina and Hylium Industries. In 2023 we also received proceeds, net of cash divested, of $474.8 million from the sale of our Roots, Cofimco, American Fan, and Cryo Diffusion businesses.

Cash used in financing activities during 2024 was $243.7 million compared to cash provided by financing activities of $1,412.5 million during 2023. During the year ended December 31, 2024, we borrowed $3,735.1 million and repaid $3,627.2 million on our revolving credit facility, we paid $258.7 million in cash to settle the outstanding principal amount of the convertible notes due November 2024 and repaid $50.0 million in term loans due March 2030. We additionally paid $27.2 million of dividends on our mandatory convertible preferred stock. In 2023, in connection with the Howden Acquisition, we borrowed incremental term loans in the aggregate principal amount of $1,534.8 million and borrowed incremental term loans in the aggregate principal amount of $250.0 million for general corporate purposes during 2023. On December 4, 2023, we voluntarily prepaid a portion of our term loans due March 2030 in the amount of $150.0 million. During 2023, we borrowed $1,895.1 million from revolving credit facilities and raised $11.7 million in proceeds for the issuance of common stock, primarily to fund the Howden Acquisition and repaid $1,901.2 million in borrowings on revolving credit facilities. A portion of debt repayments was funded with the proceeds from the previously mentioned divestitures. During 2023 we paid $136.2 million in debt issuance costs and paid $27.3 million of dividends on our mandatory convertible preferred stock. We also paid $12.2 million in dividend distributions to noncontrolling interest owners during 2023.

Cash Requirements

We do not currently anticipate any unusual cash requirements for working capital needs for the year ending December 31, 2025 relating to our existing business. Management anticipates we will be able to satisfy cash requirements for our ongoing business for the foreseeable future with cash generated by operations, existing cash balances and available borrowings under our credit facilities. We expect capital expenditures for 2025 to be approximately $110.0 million.

Contractual Obligations

Our material cash requirements from known contractual obligations include those related to debt and leases, refer to Note 10, "Debt and Credit Arrangements" and Note 19, "Leases", respectively, within Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K for payments due by period. We also have contractual coupon interest related to our 7.500% senior secured notes due 2030 and 9.500% senior unsecured notes due 2031, which, as of December 31, 2024 totals $157.7 million for the next twelve months and $679.4 million thereafter. Purchase obligations arising from purchases of inventory and services are entered into with vendors in the normal course of business and are within our expected requirements for resource planning. We occasionally enter into firm purchase commitments to procure raw materials such as stainless steel, carbon steel and aluminum. As of December 31, 2024, firm purchase commitments were not material.

We have a Co-investment agreement with I Squared Capital ("ISQ") which gives ISQ the right, but not the obligation, to require Chart to acquire all (and not less than all) of the shares of HTEC common stock acquired as part of ISQ's investment (the "Put Option"). From and after May 1, 2025, ISQ shall have the right to exercise its Put Option. Following ISQ's election to exercise its Put Option, Chart shall pay ISQ an amount equal to a purchase price of either (i) (x) $225.0 million if paid solely in cash or (y) $250.0 million if not paid solely in cash or (ii) three equal installments of $75.0 million under clause (x) or $83.3 million under clause (y) for a total combined purchase price of $225.0 million under clause (x) or $250.0 million under clause (y). The cumulative installment payments are owed no later than September 30, 2025 following ISQ's election to exercise its Put Option. We have recently executed a Letter of Intent with a third party to assume and replace the Put Option and structure the revised Put Option similar to the existing Put Option set out in the September 2021 Co-Investment Agreement so that the Put Option would not be exercisable until 2028, subject to similar exercise conditions in the September 2021 Co-Investment Agreement. Should the Put Option be exercised in the future, we expect to fund the transaction with cash on hand and available borrowings under our credit facilities.

We have a 35.8 million euro investment commitment for the Clean H2 Infra Fund as mentioned in Note 6, "Investments" within Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K. Funding is required when the fund manager issues a capital call, which shall not exceed 30% of our capital commitment in any rolling 12-month period. We also have contingent consideration arrangements from prior acquisitions with a potential payout range of zero to $12.5 million.

Our commercial commitments as of December 31, 2024, which include standby letters of credit and bank guarantees, represent potential cash requirements resulting from contingent events that require performance by us or our subsidiaries pursuant to funding commitments, and are as follows (dollar amounts in millions):

	Total	Expiring in 2025	Expiring in 2026 and beyond
Standby letters of credit	$ 277.5	$ 113.1	$ 164.4
Bank guarantees	173.8	102.3	71.5
Total commercial commitments	$ 451.3	$ 215.4	$ 235.9

Contingencies

We are subject to federal, state, local, and foreign environmental laws and regulations concerning, among other matters, waste water effluents, air emissions, and handling and disposal of hazardous materials, such as cleaning fluids. We are involved with environmental compliance, investigation, monitoring, and remediation activities at certain of our owned and formerly owned manufacturing facilities, and, except for these continuing remediation efforts, believe we are currently in substantial compliance with all known environmental regulations. Management believes that any additional liability in excess of amounts accrued, which may result from the resolution of such matters, should not have a material adverse effect on our financial position, liquidity, cash flows or results of operations.

We are occasionally subject to various legal claims related to performance under contracts, product liability, taxes, employment matters, environmental matters, intellectual property, and other matters, several of which claims assert substantial damages, in the ordinary course of our business. Based on our historical experience in litigating these claims, as well as our current assessment of the underlying merits of the claims and applicable insurance, if any, we believe the resolution of these legal claims will not have a material adverse effect on our financial position, liquidity, cash flows or results of operations.

Future developments may, however, result in resolution of these legal claims in a way that could have a material adverse effect. See Item 1A. "Risk Factors" and Item 3, "Legal Proceedings" for further information.

Foreign Operations

Our foreign operations accounted for 60.1% of 2024 consolidated sales and 51.3% of total property, plant and equipment at December 31, 2024. Functional currencies used by these operations include the Chinese yuan, the euro, the British pound, the South African rand, the Indian rupee, and the Canadian dollar. We are exposed to foreign currency exchange risk as a result of transactions by these subsidiaries in currencies other than their functional currencies, and from transactions by our domestic operations in currencies other than the U.S. dollar. The majority of these functional currencies and the other currencies in which we record transactions are fairly stable, although we experienced variability in the current year as more fully discussed in Item 7A. The use of these currencies, combined with the use of foreign currency forward purchase and sale contracts, has enabled us to be sheltered from significant gains or losses resulting from foreign currency transactions. This situation could change if these currencies experience significant fluctuations or the volume of forward contracts changes.

Critical Accounting Estimates

Our consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles and are based on the selection and application of significant accounting policies, which require management to make estimates and assumptions about future events that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ materially from those estimates. There were no material changes to estimates or methodologies used to develop those estimates in 2024. Management believes the following are the more critical judgmental areas in the application of its accounting policies that affect its financial position and results of operations.

Goodwill and Indefinite-Lived Intangible Assets: We evaluate goodwill and indefinite-lived intangible assets for impairment on an annual basis, as of October 1 or whenever events or changes in circumstances indicate that an evaluation should be completed. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include deterioration in general economic conditions, negative developments in equity and credit markets, a decline in stock price and market capitalization, adverse changes in the markets in which we operate, and a trend of negative or declining cash flows over multiple periods. The fair value that could be realized in an actual transaction may differ from that used to evaluate the impairment of goodwill.

We have elected to bypass the qualitative Step 0 Test and proceed directly to the first step ("Step 1") of the goodwill impairment test. Under the first step, we estimate the fair value of our reporting units by considering income and market approaches to develop fair value estimates, which are weighted to arrive at a fair value estimate for each reporting unit. With respect to the income approach, a model has been developed to estimate the fair value of each reporting unit. This fair value model incorporates estimates of future cash flows, estimates of allocations of certain assets and cash flows among reporting units, estimates of future growth rates, and management's judgment regarding the applicable discount rates to use to discount such estimates of cash flows. With respect to the market approach, a guideline company method is employed whereby pricing multiples are derived from companies with similar assets or businesses to estimate fair value of each reporting unit. If the fair value of the reporting unit exceeds the carrying amount of the net assets assigned to that reporting unit, then goodwill is not impaired, and no further testing is required. However, if the fair value of the reporting unit is less than its carrying amount, the impairment charge is based on the excess of a reporting unit's carrying amount over its fair value (i.e., we would measure the charge based on the result from Step 1). The assumptions and judgment used by management to estimate future cash flows, allocation of assets and cash flows among reporting units, estimates of future growth rates and selection of discount rates are subject to change due to the economic environment, including such factors as interest rates, expected market returns and volatility of markets served. Changes to the assumptions and estimates used throughout the steps described above may result in a significantly different estimate of the fair value of the reporting units, which could result in a different assessment of the recoverability of goodwill and result in future impairment charges.

In order to assess the reasonableness of the calculated fair values of our reporting units, we also compare the sum of the reporting units' fair values to our market capitalization and calculate an implied control premium (the excess of the sum of the reporting units' fair values over the market capitalization). We evaluate the control premium by comparing it to control premiums of recent comparable transactions. If the implied control premium is not reasonable in light of this assessment, we reevaluate our fair value estimates of the reporting units by adjusting the discount rates and other assumptions as necessary.

As of October 1, 2024, 2023 and 2022 ("annual reporting unit assessment dates") we elected to bypass the Step 0 test and based on our Step 1 test, we determined that the fair value of each of our reporting units was greater than its respective carrying value at each annual reporting unit assessment date. We continue to monitor for any potential indicators of impairment.

With respect to indefinite-lived intangible assets, we estimate the fair value of our indefinite-lived assets using the income approach. This may include the relief from royalty method or use of a model similar to the one described above related to goodwill which estimates the future cash flows attributed to the indefinite-lived intangible asset and then discounting these cash flows back to a present value. Under the relief from royalty method, fair value is estimated by discounting the royalty savings, as well as any tax benefits related to ownership to a present value. The fair value from either approach is compared to the carrying value and an impairment is recorded if the fair value is determined to be less than the carrying value. Management's estimates regarding future cash flows, selection of discount rates and estimated tax benefits are subject to change due to various economic factors and changes to the assumptions and estimates used throughout the steps described above and may result in a significantly different estimate of the fair value of indefinite-lived intangible assets which could result in a different assessment of the recoverability of these assets and result in future impairment charges.

As of October 1, 2024 and 2023, we elected to bypass the Step 0 test and based on our Step 1 test, we determined that the fair value of each of our indefinite-lived intangible assets was greater than its respective carrying value. We continue to monitor for any potential indicators of impairment.

Business Combinations: We account for business combinations in accordance with Accounting Standards Codification ("ASC") 805, "Business Combinations." We recognize and measure identifiable assets acquired and liabilities assumed based on their estimated fair values. The excess of the consideration transferred over the fair value of the net assets acquired, including identifiable intangible assets, is assigned to goodwill. We estimate the fair value of identifiable intangible assets under income approaches where the fair value models incorporate estimates of future cash flows, estimates of allocations of certain assets and cash flows, estimates of future growth rates, and management's judgment regarding the applicable discount rates to use to discount such estimates of cash flows. Assigning estimated fair values to the identifiable assets acquired and liabilities assumed requires the use of significant estimates, judgments, inputs and assumptions. Such assumptions are based in part on historical experience, industry and market conditions and information obtained from management of the acquired companies and are thus inherently uncertain. As additional information becomes available, we may further revise the preliminary acquisition consideration allocation during the remainder of the measurement period, which shall not exceed twelve months from the closing of the acquisition.

Revenue Recognition: Revenue is recognized when (or as) we satisfy performance obligations by transferring a promised good or service, an asset, to a customer. An asset is transferred to a customer when, or as, the customer obtains control over that asset.

In certain contracts, we are engaged to engineer and build highly-customized products and systems. In these circumstances, we produce an asset with no alternative use and have a right to payment for performance completed to date. For these contracts, revenue is recognized as we satisfy the performance obligations by an allocation of the transaction price to the accounting period computed using input methods such as costs incurred. Selecting the method used to measure progress towards completion for our contracts requires judgment and is based on the nature of the products to be provided. Accounting for contracts using the costs incurred input method requires management judgment relative to assessing risks and their impact on the estimates of revenue and costs. Certain factors can impact these estimates including, but not limited to, schedule delays, labor productivity, the complexity of work performed and the cost and availability of materials. Revisions to estimated cost to complete a project that result from inefficiencies in our performance that were not expected in the pricing of the contract are expensed in the period in which these inefficiencies become known. Contract modifications can change a contract's scope, price, or both. Approved contract modifications are accounted for as either a separate contract or as part of the existing contract depending on the nature of the modification which is subject to management's judgment.

Income Taxes: The Company and its U.S. subsidiaries file a consolidated federal income tax return. Deferred income taxes are provided for temporary differences between financial reporting and the consolidated tax return in accordance with the liability method. A valuation allowance is provided against net deferred tax assets when conditions indicate that it is more likely than not that the benefit related to such assets will not be realized. In the event that we change our determination as to the amount of deferred tax assets that can be realized, the valuation allowance will be adjusted with a corresponding impact to the provision for income taxes in the period in which such determination is made. Management must make assumptions, judgments and estimates to determine our deferred tax assets and liabilities, current provision for income taxes and valuation allowances. In making such assumptions we consider all available evidence including past operating results, estimates of future taxable income and the feasibility of tax planning strategies

Recent Accounting Standards

For disclosures regarding recent accounting standards, refer to Note 2, "Significant Accounting Policies," of our consolidated financial statements included under Item 15, "Exhibits and Financial Statement Schedules" of this Annual Report on Form 10-K.

Forward-Looking Statements

We are making this statement in order to satisfy the "safe harbor" provisions contained in the Private Securities Litigation Reform Act of 1995. This Annual Report includes "forward-looking statements." These forward-looking statements include statements relating to our business, including statements regarding completed acquisitions and investments and related accretion or statements with respect to the use of proceeds or redeployment of capital from recent divestitures, as well statements regarding sales outlooks, revenues, cost and commercial synergies and efficiency savings, objectives, future orders, margins, segment sales mix, earnings or performance, liquidity and cash flow, repayment or settlement of maturing debt, inventory levels, capital expenditures, supply chain challenges, inflationary pressures including materials costs and pricing increases, business trends, clean energy market opportunities including addressable market and projected industry-wide investments, carbon and GHG emission targets, governmental initiatives, including changes in governmental policies, executive orders and other information that is not historical in nature. In some cases, forward-looking statements may be identified by terminology such as "may," "will," "should," "expects," "anticipates," "believes," "projects," "forecasts," "outlook," "guidance," "target," "continue" or the negative of such terms or comparable terminology. Forward-looking statements contained herein (including future cash contractual obligations, liquidity, debt repayment, cash flow, orders, results of operations, projected revenues, margins, capital expenditures, industry and business, trends, clean energy and other new market or expansion opportunities, cost and commercial synergies and savings objectives, and government initiatives among other matters) or in other statements made by us are made based on management's expectations and beliefs concerning future events impacting us and are subject to uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control, that could cause our actual results to differ materially from those matters expressed or implied by forward-looking statements.

The risk factors discussed in Item 1A. "Risk Factors" and the factors discussed in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," among others, could affect our future performance and liquidity and value of our securities and could cause our actual results to differ materially from those expressed or implied by forward-looking statements made by us or on our behalf. These factors should not be construed as exhaustive and there may also be other risks that we are unable to predict at this time. All forward-looking statements included in this Annual Report are expressly qualified in their entirety by these cautionary statements.

All forward-looking statements attributable to us or persons acting on our behalf apply only as of the date of this Annual Report and are expressly qualified in their entirety by the cautionary statements included in this Annual Report. We undertake no obligation to update or revise forward-looking statements which may be made to reflect events or circumstances that arise after the filing date of this document or to reflect the occurrence of unanticipated events, except as otherwise required by law.

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

In the normal course of business, our operations are exposed to fluctuations in interest rates and foreign currency values that can affect the cost of operating and financing. Accordingly, we address a portion of these risks through a program of risk management.

Interest Rate Risk: Our primary interest rate risk exposure results from various floating rate pricing mechanisms contained in our senior secured revolving credit facility due April 2029 and term loans due March 2030. If interest rates were to increase 100 basis points (1 percent) from the weighted-average interest rate of 7.0% at December 31, 2024, and assuming no changes in the $205.0 million of borrowings outstanding under the senior secured revolving credit facility due April 2029 at December 31, 2024, our additional annual expense would be approximately $2.1 million on a pre-tax basis. If interest rates were to increase 100 basis points (1 percent) from the interest rate for our term loan of 7.1% at December 31, 2024, and assuming no changes in the $1,581.0 million of borrowings outstanding under the term loan at December 31, 2024, our additional annual expense would be approximately $15.8 million on a pre-tax basis.

Foreign Currency Exchange Rate Risk: We operate in the United States and other foreign countries, which creates exposure to foreign currency exchange fluctuations in the normal course of business, which can impact our financial position, results of operations, cash flow, and competitive position. The financial statements of foreign subsidiaries are translated into their U.S. dollar equivalents at end-of-period exchange rates for assets and liabilities, while income and expenses are translated at average monthly exchange rates. Translation gains and losses are components of other comprehensive (loss) income as reported in the consolidated statements of income and comprehensive income (loss). Translation exposure is primarily with the euro, the Czech koruna, the Chinese yuan, the South African rand, the British pound and the Indian rupee. During 2024, the U.S. dollar strengthened in relation to the Czech koruna by 8%, the euro by 6%, the Indian rupee by 3%, the South African rand by 3%, the Chinese yuan by 2%, and British pound by 1%. A hypothetical further 10% strengthening of the U.S. dollar versus the euro or Chinese yuan would lower our operating income for the year ended December 31, 2024 by approximately $14.3 million or $13.1 million, respectively.

EUR Revolver Borrowings: Additionally, assuming no changes in the euro 78.0 million in EUR Revolver Borrowings outstanding under the senior secured revolving credit facility due April 2029 and an additional 100 basis points (1 percent) strengthening in the U.S. dollar in relation to the euro as of the beginning of 2024, during the year ended December 31, 2024, our additional unrealized foreign currency gain would be approximately $0.8 million on a pre-tax basis.

Transaction Gains and Losses: Chart's primary transaction exchange rate exposures are with the euro, the Chinese yuan, the Czech koruna, the Indian rupee, the Australian dollar, the British pound, the Canadian dollar and the South African rand. Transaction gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized in the consolidated statements of income and comprehensive income (loss) as a component of foreign currency gain.

Derivative Instruments: We enter into foreign currency contracts not designated as hedging instruments to mitigate foreign currency risk for anticipated and firmly committed foreign currency transactions. At December 31, 2024, a hypothetical 10% weakening of the U.S. dollar would not materially affect our outstanding foreign exchange forward contracts. We enter into a combination of cross-currency swaps and foreign exchange collars as a net investment hedge of our investments in certain international subsidiaries that use the euro as their functional currency in order to reduce the volatility caused by changes in exchange rates. As disclosed in Note 10, "Debt and Credit Arrangements," we have an out-of-the-money protective call while writing a put option with a strike price at which the premium received is equal to the premium of the protective call purchased, which involved no initial capital outlay. The call was structured with a strike price higher than our cost basis in such investments, thereby limiting any foreign exchange losses to approximately $11.4 million on a pre-tax basis. We do not use derivative financial instruments for speculative or trading purposes. The terms of the contracts are generally one to three years.

Item 8. *Financial Statements and Supplementary Data*

Our Financial Statements and the accompanying Notes that are filed as part of this Annual Report are listed under Item 15. "Exhibits and Financial Statement Schedules" and are set forth beginning on page F-1 immediately following the signature page of this Form 10-K and are incorporated into this Item 8 by reference.

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

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

As of December 31, 2024, an evaluation was performed under the supervision and with the participation of our management including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities and Exchange Act of 1934, as amended (the "Exchange Act"). The term "disclosure controls" means disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act (1) is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (2) is accumulated and communicated to our management including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow for timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on the evaluation of our disclosure controls and procedures as of December 31, 2024, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at a reasonable level of assurance.

Management's Report on Internal Control Over Financial Reporting

Management of Chart Industries, Inc. and its subsidiaries (the "Company," "Chart," "we," "us," or "our") is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed under the supervision of our principal executive and financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles.

The Company's internal control over financial reporting includes policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and the directors of the Company; and
- 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 Company's 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 and procedures may deteriorate. Management has assessed the effectiveness of its internal control over financial reporting as of December 31, 2024 based on the framework established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (the "COSO criteria").

Based on our assessment of internal control over financial reporting, management has concluded that, as of December 31, 2024, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of December 31, 2024 has been audited by Deloitte & Touche, LLP, an independent registered public accounting firm, and is included in this Annual Report on Form 10-K on page F-4 under the caption "Report of Independent Registered Public Accounting Firm."

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. ***Other Information***

During the year ended December 31, 2024, none of the Company's directors or officers (as defined in Rule 16a-1(f) of the Exchange Act) adopted or terminated a Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement" (as such items are defined in Item 408 of Regulation S-K), nor do any of the directors or officers (as defined in Rule 16a-1(f) of the Exchange Act) currently maintain any such arrangements.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections***

None.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

Information required by this item as to the Directors of the Company appearing under the caption “Election of Directors” in our 2025 Proxy Statement is incorporated herein by reference. Information required by Item 405 is set forth in the 2025 Proxy Statement under the heading “Delinquent section 16(a) Reports,” which information is incorporated herein by reference. Information required by Items 406 and 407(c)(3), (d)(4) and (d)(5) of Regulation S-K is set forth in the 2025 Proxy Statement under the headings “Information Regarding Meetings and Committees of the Board of Directors,” “Code of Ethical Business Conduct and Officer Code of Ethics” and “Stockholder Communications with the Board,” which information is incorporated herein by reference.

The Charters of the Audit Committee, Compensation Committee and Nominations and Corporate Governance Committee and the Corporate Governance Guidelines, Officer Code of Ethics and Code of Ethical Business Conduct are available free of charge on our website at www.chartindustries.com and in print to any stockholder who requests a copy. Requests for copies should be directed to Secretary, Chart Industries, Inc., 2200 Airport Industrial Drive, Suite 100, Ball Ground, Georgia 30107. We intend to disclose any amendments to the Code of Ethical Business Conduct or Officer Code of Ethics and any waiver of the Code of Ethical Business Conduct or Officer Code of Ethics granted to any Director or Executive Officer of the Company on our website.

Executive Officers

The name, age and positions of each Executive Officer of the Company as of February 28, 2025 are as follows:

Name	Age	Position
Jillian C. (Jill) Evanko	47	Chief Executive Officer and President (Principal Executive Officer)
Joseph R. (Joe) Brinkman	55	Vice President and Chief Financial Officer (Principal Financial Officer)
Gerald F. (Gerry) Vinci	59	Vice President, Chief Human Resources Officer
Herbert G. (Herb) Hotchkiss	54	Vice President, General Counsel and Secretary
Joseph A. (Joe) Belling	55	Chief Technology Officer

Jillian C. (Jill) Evanko was appointed Chief Executive Officer and President on June 12, 2018 and served as Chief Financial Officer from March 1, 2017 until January 14, 2019 and more recently, from August 2019 until March 2021. Ms. Evanko joined Chart on February 13, 2017 as Vice President of Finance. Prior to joining Chart, Ms. Evanko served as the Vice President and Chief Financial Officer of Truck-Lite Co., LLC, a manufacturer of lighting and specialty products for the truck and commercial vehicle industries, starting in October 2016. Prior to Truck-Lite, she held multiple executive positions at Dover Corporation (NYSE: DOV), a diversified global manufacturer, and its subsidiaries, including the role of Vice President and Chief Financial Officer of Dover Fluids since January 2014. Prior to joining Dover in 2004, Ms. Evanko worked in valuation services at Arthur Andersen, LLP and also held audit and accounting roles for Honeywell and Sony Corporation of America. Ms. Evanko served from February 2019 until January 2021 as an independent director of the Boards of Alliant Energy Corporation (NASDAQ: LNT) and its subsidiaries. From January 2021 to October 2024, Ms. Evanko served as an independent director of the Board of Parker-Hannifin Corporation (NYSE: PH), and since June 2024, Ms. Evanko has served as an independent director of Greif, Inc. (NYSE: GEF).

Joseph R. (Joe) Brinkman was appointed our Vice President and Chief Financial Officer on October 1, 2021. Prior to his appointment, Mr. Brinkman was Vice President and General Manager of Industrial Gas Products, the Company’s largest business. In his 24 years with the Company Mr. Brinkman has held various roles including Materials Manager, Director of Global Sourcing and most recently Vice President & General Manager of Bulk Gas Products.

Gerald F. (Gerry) Vinci was appointed our Vice President and Chief Human Resources Officer and has served in that capacity since December 5, 2016, when he joined Chart. Mr. Vinci was designated an executive officer of Chart on August 23, 2017. Prior to joining Chart, Mr. Vinci held various executive Human Resources roles at Dover Corporation (NYSE: DOV), a diversified global manufacturer, from February 2013 to November 2016, including Vice President, Human Resources for Dover Engineered Systems and Dover Refrigeration and Food Equipment Segments. From 1997 to 2013, Mr. Vinci served in numerous Human Resources executive roles and as Senior Counsel for Harsco Corporation (NYSE: HSC). Prior to that, Mr. Vinci was an attorney for Sunoco, Inc. (NYSE: SUN).

Herbert G. (Herb) Hotchkiss was appointed Vice President, General Counsel and Secretary on March 3, 2019. Prior to joining Chart, Mr. Hotchkiss spent over 11 years at Truck-Lite Co., LLC, a manufacturer of lighting and specialty products for the truck and commercial vehicle industries, as Vice President and Corporate Counsel. Prior to joining Truck-Lite, Mr. Hotchkiss worked for Blair Corporation as its Vice President and General Counsel. Prior to joining Blair Corporation, Mr. Hotchkiss was employed as a Cleveland attorney, working as corporate associate at Calfee, Halter & Griswold LLP and Hahn, Loeser & Parks LLP.

Joseph A. (Joe) Belling was appointed Chief Technology Officer on April 8, 2024. Prior to his appointment, Mr. Belling held various roles at Chart, most recently as Chief Commercial Officer, and prior to that, President of the Chart Energy and Chemicals (E&C) segment, President of E&C Cryogenics and VP/GM of Chart's Brazed Aluminum Heat Exchangers (BAHX) business. Prior to joining Chart, Mr. Belling served in various roles of increasing responsibility at Trane Technologies (NYSE: TT), a multi-national corporation specializing in the HVAC industry. Mr. Belling was also employed by ALTEC International, which transitioned into Chart Energy and Chemicals.

Set forth below is a list of the members of our Board of Directors as of February 28, 2025:

Directors

ANDREW R. CICHOCKI (1) (3)
Chair of the Board
Retired Chief Operating Officer
Airgas, Inc.
Supplier of gases, welding equipment and supplies, and safety products

JILLIAN C. EVANKO
President, Chief Executive Officer and Director
Chart Industries, Inc.

PAULA M. HARRIS (1) (3)
Retired Director of Global Stewardship
Schlumberger Limited
Global oilfield service company

LINDA A. HARTY (1) (2)
Retired Finance Executive
Medtronic
Global company specializing in medical technology, services and solutions

PAUL E. MAHONEY (2) (3)
President of Production and Automation Technologies
ChampionX
Global provider of chemistry solutions and highly engineered equipment and technologies for the oil and gas industry

SINGLETON B. MCALLISTER (2)
Of Counsel and Senior Advisor
Husch Blackwell LLP
Law firm

MICHAEL L. MOLININI (1) (3)
Retired Chief Executive Officer and President
Airgas, Inc.
Supplier of gases, welding equipment and supplies, and safety products

DAVID M. SAGEHORN (1) (3)

Retired Executive Vice President and Chief Financial Officer

Oshkosh Corporation

A global innovator and integrator specializing in the design, development and manufacturing of purpose-built vehicles and equipment

SPENCER S. STILES (2) (3)

Group President

Stryker Corporation

Global company specializing in medical technology products and services

ROGER A. STRAUCH (2)

Chairman

The Roda Group

Early-stage venture capital group focused on investment opportunities that address the consequences of climate change and increased demand for low carbon energy

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(1) Audit Committee

(2) Nominations and Corporate Governance Committee

(3) Compensation Committee

Item 11. ***Executive Compensation***

The information required by Item 402 of Regulation S-K is set forth in the 2025 Proxy Statement under the heading "Executive and Director Compensation," which information is incorporated herein by reference. The information required by Items 407(e)(4) and 407(e)(5) of Regulation S-K is set forth in the 2025 Proxy Statement under the headings "Compensation Committee Interlocks and Insider Participation" and "Compensation Committee Report," respectively, which information is incorporated herein by reference.

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

The information required by this item is set forth in the 2025 Proxy Statement under the headings "Security Ownership of Certain Beneficial Owners" and "Equity Compensation Plan Information," which information is incorporated herein by reference.

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

The information required by this item is set forth in the 2025 Proxy Statement under the headings "Related Party Transactions" and "Director Independence," which information is incorporated herein by reference.

Item 14. ***Principal Accounting Fees and Services***

The information required by this item is set forth in the 2025 Proxy Statement under the heading "Principal Accounting Fees and Services," which information is incorporated herein by reference.

PART IV

Item 15. *Exhibits and Financial Statement Schedules*

(a) The following documents are filed as part of this 2024 Annual Report on Form 10-K:

1. *Financial Statements.* The following consolidated financial statements of the Company and its subsidiaries and the reports of the Company's independent registered public accounting firm are incorporated by reference in Item 8:

   Reports of Independent Registered Public Accounting Firm (PCAOB ID No. 34)

   Consolidated Balance Sheets

   Consolidated Statements of Income

   Consolidated Statements of Comprehensive Income (Loss)

   Consolidated Statements of Cash Flows

   Consolidated Statements of Equity

   Notes to Consolidated Financial Statements

2. *Financial Statement Schedules*. The following additional information should be read in conjunction with the consolidated financial statements:

   Schedule II Valuation and Qualifying Accounts for the Years Ended December 31, 2024, 2023 and 2022.

   All other financial statement schedules have been omitted since they are either not required, not applicable, or the information is otherwise included.

3. *Exhibits*. See the Index to Exhibits at page E-1 of this Annual Report on Form 10-K.

Item 16. *Form 10–K Summary*

None.

SIGNATURES

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

Chart Industries, Inc.

By: /s/ Jillian C. Evanko

Jillian C. Evanko
Chief Executive Officer and President
(Principal Executive Officer)

Date: February 28, 2025

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

By:

/s/ Andrew R. Cichocki **Andrew R. Cichocki**	Chair of the Board, Director
/s/ Jillian C. Evanko **Jillian C. Evanko**	Chief Executive Officer, President and a Director (Principal Executive Officer)
/s/ Joseph R. Brinkman **Joseph R. Brinkman**	Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Singleton B. McAllister **Singleton B. McAllister**	Director
/s/ Paula M. Harris **Paula M. Harris**	Director
/s/ Linda A. Harty **Linda A. Harty**	Director
/s/ Paul E. Mahoney **Paul E. Mahoney**	Director
/s/ Michael L. Molinini **Michael L. Molinini**	Director
/s/ David M. Sagehorn **David M. Sagehorn**	Director
/s/ Spencer S. Stiles **Spencer Stiles**	Director
/s/ Roger A. Strauch **Roger A. Strauch**	Director

Date: February 28, 2025

INDEX TO FINANCIAL STATEMENTS

Audited Consolidated Financial Statements:

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Chart Industries, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Chart Industries, Inc. and subsidiaries (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of income, comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2024, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

We have also 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, 2024, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 28, 2025, expressed an unqualified opinion on the Company's internal control over financial reporting.

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 Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Sales—Contracts Recognized Over Time—Refer to Notes 2 and 5 to the financial statements

Critical Audit Matter Description

In certain contracts, the Company is engaged to engineer and build highly-customized products and systems. In these circumstances, the Company produces an asset with no alternative use and has a right to payment for performance completed to date. For these contracts, revenue is recognized as the Company satisfies the performance obligations computed using input methods such as costs incurred. Sales in 2024 were $4,160.3 million, of which $2,852.7 million was recognized over time. The costs incurred input method measures progress toward the satisfaction of the performance obligation by multiplying the transaction price of the performance obligation by the percentage of incurred costs as of the balance sheet date to the estimated total costs at completion. Changes in estimated total costs at completion could have a significant impact on the timing of revenue recognition.

We identified revenue recognized for in-process contracts recognized over time as a critical audit matter because of the judgments necessary for management to estimate total costs at completion used to recognize revenue for these contracts. Management's estimates of total costs at completion are subjective in nature resulting in a higher degree of audit effort and judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to estimates of total costs at completion used to recognize revenue over time for in-process contracts included the following, among others:

- We tested the effectiveness of controls over certain revenue contracts recognized over time, including management's controls over the estimates of total costs at completion.
- We selected a sample of in-process revenue contracts recognized over time and performed the following:
  - Tested the accuracy and completeness of the costs incurred to date.
  - Evaluated the estimates of total costs at completion by:
    - Comparing estimates of total costs at completion to the original project budget and understanding changes in estimates.
    - Testing the accuracy of the estimated costs by selecting costs, vouching the costs to supplier contracts or other supporting documents, and evaluating whether the estimated costs are appropriate.
    - Evaluating management's ability to achieve the estimates of total costs at completion by observing the project on site and performing corroborating inquiries with the Company's project managers, engineers, and other relevant site personnel to understand the progress to date and the estimate of total costs at completion.
    - Comparing management's estimates of total costs at completion for the selected contracts to estimates of total costs at completion of similar contracts, when applicable.
- We evaluated management's ability to estimate total costs at completion accurately by comparing actual inputs to management's historical estimates for contracts that have been fulfilled.

Goodwill — Refer to Notes 2 and 9 to the financial statements

Critical Audit Matter Description

The Company's evaluation of goodwill for impairment involves the comparison of the fair value of each reporting unit to its carrying value annually in the fourth quarter or whenever events or changes in circumstances indicate that an evaluation should be completed. The Company estimates the fair value of its reporting units using income and market approaches. The estimate of the fair value using the income approach requires management to make significant estimates and assumptions related to forecasts of future cash flows and discount rates. The determination of the fair value using the market approach requires management to make significant assumptions related to pricing multiples derived from companies with similar assets or businesses. Changes to the assumptions and estimates may result in a significantly different estimate of the fair value of the reporting units, which could result in a different assessment of the recoverability of goodwill. The goodwill balance was $2,987.7 million as of October 1, 2024 (the annual impairment testing date), of which $222.6 million was allocated to the Cryo Tank Solutions reporting unit. The fair value of the Cryo Tank Solutions reporting unit exceeded its carrying values as of the measurement date and, therefore, no impairment was recognized.

We identified goodwill for Cryo Tank Solutions as a critical audit matter because of the significant estimates and assumptions management makes to estimate the fair value of the reporting unit, and the sensitivity of the estimate to changes in the assumptions, specifically related to the forecasts of future sales and earnings before interest, taxes, depreciation, and amortization ("EBITDA"), and the discount rate used in the income approach; and the selection of guideline public companies and pricing multiples, and forecasts of future EBITDA used in the market approach. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of these assumptions.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to forecasts of future sales and EBITDA, and the selection of the discount rate, guideline public companies, and pricing multiples for the Cryo Tank Solutions reporting unit, included the following, among others:

- We tested the effectiveness of internal controls over management's goodwill impairment evaluation, including those over the determination of the fair value of the Cryo Tank Solutions reporting unit, such as controls related to management's forecast of sales and EBITDA and selection of the discount rate, guideline public companies, and pricing multiples.

- We evaluated management’s ability to accurately forecast sales and EBITDA by comparing management’s forecasts for historical periods to actual results for those periods.
- We evaluated the reasonableness of management’s forecasts of sales and EBITDA by comparing the forecasts to (1) the Company’s historical sales and EBITDA, (2) forecasted information included in industry reports, applicable market data, and guideline public company information, (3) internal communications to management and the Board of Directors, and (4) underlying analyses detailing business strategies and growth plans.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the valuation assumptions, specifically the selection of the discount rate, guideline public companies, and pricing multiples, by:

  – Evaluating the guideline public companies, including comparing the reporting unit's growth and profitability to the guideline public companies, testing the source information underlying the determination of the pricing multiples, and testing the mathematical accuracy of the calculation and comparing the multiples selected by management to the guideline public companies.

  – Developing a range of independent estimates and comparing those to the discount rate and pricing multiples selected by management.

/s/ Deloitte & Touche LLP

Atlanta, Georgia

February 28, 2025

We have served as the Company's auditor since 2019.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Chart Industries, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Chart Industries, Inc. and subsidiaries (the "Company") as of December 31, 2024, based on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2024, of the Company and our report dated February 28, 2025, expressed an unqualified opinion on those financial statements.

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/ Deloitte & Touche LLP

Atlanta, Georgia

February 28, 2025

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in millions, except per share amounts)

	December 31, 2024	December 31, 2023
ASSETS		
Current Assets		
Cash and cash equivalents	$ 308.6	$ 188.3
Accounts receivable, less allowances of $4.5 and $5.9, respectively	752.3	758.9
Inventories, net	490.5	576.3
Unbilled contract revenue	735.1	481.7
Other current assets	178.9	209.2
Total Current Assets	2,465.4	2,214.4
Property, plant and equipment, net	864.2	837.6
Goodwill	2,899.9	2,906.8
Identifiable intangible assets, net	2,540.6	2,791.9
Other assets	353.8	351.7
TOTAL ASSETS	$ 9,123.9	$ 9,102.4
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts payable	$ 1,058.9	$ 811.0
Customer advances and billings in excess of contract revenue	362.2	376.6
Accrued interest	110.4	92.5
Current portion of long-term debt	0.9	258.5
Other current liabilities	257.4	327.6
Total Current Liabilities	1,789.8	1,866.2
Long-term debt	3,640.7	3,576.4
Deferred tax liabilities	544.9	568.2
Other long-term liabilities	153.3	152.6
Total Liabilities	6,128.7	6,163.4
Equity		
Preferred stock, par value $0.01 per share, $1,000 aggregate liquidation preference — 10,000,000 shares authorized, 402,500 shares issued and outstanding at December 31, 2024 and 2023, respectively	—	—
Common stock, par value $0.01 per share — 150,000,000 shares authorized, 45,657,062 and 42,754,241 shares issued at December 31, 2024 and 2023, respectively	0.5	0.4
Additional paid-in capital	1,889.3	1,872.5
Treasury stock; 760,782 shares at both December 31, 2024 and 2023	(19.3)	(19.3)
Retained earnings	1,113.4	922.1
Accumulated other comprehensive (loss) income	(155.1)	10.8
Total Chart Industries, Inc. Shareholders' Equity	2,828.8	2,786.5
Noncontrolling interests	166.4	152.5
Total Equity	2,995.2	2,939.0
TOTAL LIABILITIES AND EQUITY	$ 9,123.9	$ 9,102.4

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

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Dollars and shares in millions, except per share amounts)

	Year Ended December 31,		
	2024	2023	2022
Sales	$ 4,160.3	$ 3,352.5	$ 1,612.4
Cost of sales	2,771.5	2,312.1	1,205.0
Gross profit	1,388.8	1,040.4	407.4
Selling, general and administrative expenses	547.4	486.3	214.5
Amortization expense	193.9	163.4	41.4
Operating expenses	741.3	649.7	255.9
Operating income	647.5	390.7	151.5
Acquisition related finance fees	—	26.1	37.0
Interest expense, net	328.5	289.1	31.7
Other expense (income), net	0.5	17.5	(16.1)
Income from continuing operations before income taxes and equity in earnings of unconsolidated affiliates, net	318.5	58.0	98.9
Income tax expense, net	78.6	3.0	15.9
Income from continuing operations before equity in earnings of unconsolidated affiliates, net	239.9	55.0	83.0
Equity in (loss) earnings of unconsolidated affiliates, net	(3.6)	2.5	(0.4)
Net income from continuing operations	236.3	57.5	82.6
Loss from discontinued operations, net of tax	(3.5)	(0.6)	(57.6)
Net income	232.8	56.9	25.0
Less: Income attributable to noncontrolling interests of continuing operations, net of taxes	14.3	9.6	1.0
Net income attributable to Chart Industries, Inc.	$ 218.5	$ 47.3	$ 24.0
Amounts attributable to Chart common stockholders			
Income from continuing operations	$ 222.0	$ 47.9	$ 81.6
Less: Mandatory convertible preferred stock dividend requirement	27.2	27.3	1.4
Income from continuing operations attributable to Chart	194.8	20.6	80.2
Loss from discontinued operations, net of tax	(3.5)	(0.6)	(57.6)
Net income attributable to Chart common stockholders	$ 191.3	$ 20.0	$ 22.6
Basic earnings per common share attributable to Chart Industries, Inc.			
Income from continuing operations	$ 4.62	$ 0.49	$ 2.21
Loss from discontinued operations	(0.08)	(0.01)	(1.59)
Net income attributable to Chart Industries, Inc.	$ 4.54	$ 0.48	$ 0.62
Diluted earnings per common share attributable to Chart Industries, Inc.			
Income from continuing operations	$ 4.17	$ 0.44	$ 1.92
Loss from discontinued operations	(0.07)	(0.01)	(1.38)
Net income attributable to Chart Industries, Inc.	$ 4.10	$ 0.43	$ 0.54
Weighted-average number of common shares outstanding:			
Basic	42.15	41.97	36.25
Diluted	46.67	46.82	41.80

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

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Year Ended December 31,		
	2024	2023	2022
Net income	$ 232.8	$ 56.9	$ 25.0
Other comprehensive (loss) income:			
Foreign currency translation adjustments	(167.2)	63.7	(35.3)
Defined benefit pension plan:			
Actuarial (loss) gain on remeasurement	(0.7)	5.8	(1.7)
Net settlement loss	1.1	—	—
Amortization of net loss	—	0.9	0.5
Defined benefit pension plan	0.4	6.7	(1.2)
Other comprehensive (loss) income, before tax	(166.8)	70.4	(36.5)
Income tax benefit (expense) related to defined benefit pension plan	0.5	(1.6)	0.2
Other comprehensive (loss) income, net of taxes	(166.3)	68.8	(36.3)
Comprehensive income (loss)	66.5	125.7	(11.3)
Less: Comprehensive income attributable to noncontrolling interests, net of taxes	(13.9)	(9.6)	(1.0)
Comprehensive income (loss) attributable to Chart Industries, Inc.	$ 52.6	$ 116.1	$ (12.3)

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

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Year Ended December 31,		
	2024	2023	2022
OPERATING ACTIVITIES			
Net income	$ 232.8	$ 56.9	$ 25.0
Less: Loss from discontinued operations, net of tax	(3.5)	(0.6)	(57.6)
Income from continuing operations	236.3	57.5	82.6
Adjustments to reconcile net income to net cash provided by operating activities:			
Bridge loan facility fees	—	26.1	—
Depreciation and amortization	269.9	231.1	81.9
Employee share-based compensation expense	18.9	12.6	10.6
Financing costs amortization	19.1	17.2	2.9
Deferred income tax benefit	(26.1)	(79.3)	(1.7)
Other non-cash operating activities	(8.2)	3.8	(5.7)
Changes in assets and liabilities, net of acquisitions:			
Accounts receivable	(14.5)	(76.5)	(45.3)
Inventories	54.9	20.8	(48.7)
Unbilled contract revenue	(267.7)	(166.0)	(40.9)
Prepaid expenses and other current assets	4.4	27.6	(21.6)
Accounts payable and other current liabilities [1]	190.1	237.2	88.8
Customer advances and billings in excess of contract revenue	(4.0)	(58.2)	27.9
Long-term assets and liabilities	35.6	(19.1)	(50.0)
Net Cash Provided By Continuing Operating Activities	508.7	234.8	80.8
Net Cash Used In Discontinued Operating Activities	(5.7)	(67.6)	—
Net Cash Provided By Operating Activities	503.0	167.2	80.8
INVESTING ACTIVITIES			
Acquisition of business, net of cash acquired	—	(4,322.3)	(25.8)
Proceeds from sale of businesses, net of cash divested	—	474.8	—
Capital expenditures	(120.8)	(135.6)	(74.2)
Investments	(13.1)	(11.6)	(9.9)
Cash received from settlement of cross-currency swap agreement	—	—	9.4
Other investing activities	(4.9)	7.2	(1.1)
Net Cash Used In Continuing Investing Activities	(138.8)	(3,987.5)	(101.6)
Net Cash Used In Discontinued Investing Activities	(2.5)	(2.6)	—
Net Cash Used In Investing Activities	(141.3)	(3,990.1)	(101.6)

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Year Ended December 31,		
	2024	**2023**	**2022**
FINANCING ACTIVITIES			
Borrowings on senior secured and senior unsecured notes	—	—	1,940.0
Borrowings on credit facilities	3,735.1	1,895.1	635.3
Repayments on credit facilities	(3,627.2)	(1,901.2)	(1,128.2)
Repayment of convertible notes	(258.7)	—	—
Borrowings on term loan	—	1,747.3	—
Repayments on term loan	(50.0)	(158.3)	—
Payments for debt issuance costs	(10.2)	(136.2)	(4.7)
Proceeds from issuance of common stock, net	—	11.7	675.5
Proceeds from issuance of preferred stock, net	—	—	388.4
Dividend distribution to noncontrolling interests	—	(12.2)	—
Dividends paid on mandatory convertible preferred stock	(27.2)	(27.3)	—
Other financing activities	(5.5)	(6.4)	(2.1)
Net Cash (Used in) Provided By Financing Activities	(243.7)	1,412.5	2,504.2
Effect of exchange rate changes on cash and cash equivalents	(8.6)	6.2	(0.5)
Net increase (decrease) in cash, cash equivalents, restricted cash, and restricted cash equivalents	109.4	(2,404.2)	2,482.9
Cash, cash equivalents, restricted cash, and restricted cash equivalents at beginning of period	201.1	2,605.3	122.4
CASH, CASH EQUIVALENTS, RESTRICTED CASH, AND RESTRICTED CASH EQUIVALENTS AT END OF PERIOD [2]	$ 310.5	$ 201.1	$ 2,605.3

(1) Includes $37.0 of acquisition related financing fees for the year ended December 31, 2022.

(2) Includes restricted cash and restricted cash equivalents of $1.9, $12.8 and $1,941.7 classified within other current assets on our consolidated balance sheets as of December 31, 2024, 2023 and 2022, respectively. For further information regarding restricted cash and restricted cash equivalents balances, refer to Note 10, "Debt and Credit Arrangements."

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

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(Dollars and shares in millions)

	Common Stock		Preferred Stock							
	Shares Outstanding	Amount	Shares Outstanding	Amount	Additional Paid-in Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Noncontrolling Interests	Total Shareholders' Equity
Balance at December 31, 2021	36.55	$ 0.4	—	$ —	$ 779.0	$ (19.3)	$ 878.2	$ (21.7)	$ 8.6	$ 1,625.2
Net income	—	—	—	—	—	—	24.0	—	1.0	25.0
Other comprehensive loss	—	—	—	—	—	—		(36.3)	—	(36.3)
Common stock issuances, net equity of issuance costs	5.92	—	—	—	675.1	—	—	—	—	675.1
Preferred stock issuance, net of equity issuance costs	—	—	0.4	—	388.1	—	—	—	—	388.1
Share-based compensation expense	—	—	—	—	10.6	—	—	—	—	10.6
Common stock issued from share-based compensation plans	0.11	—	—	—	2.2	—	—	—	—	2.2
Common stock repurchases from share-based compensation plans	(0.02)	—	—	—	(3.6)	—	—	—	—	(3.6)
Acquisition of Earthly Labs Inc.	—	—	—	—	(1.2)	—	—	—	—	(1.2)
Other	—	—	—	—	—	—	—	—	(0.8)	(0.8)
Balance at December 31, 2022	42.56	0.4	0.4	—	1,850.2	(19.3)	902.2	(58.0)	8.8	2,684.3
Net income	—	—	—	—	—	—	47.3	—	9.6	56.9
Other comprehensive income	—	—	—	—	—	—	—	68.8	—	68.8
Common stock issuance, net of equity issuance costs	0.10	—	—	—	11.7	—	—	—	—	11.7
Share-based compensation expense	—	—	—	—	12.6	—	—	—	—	12.6
Common stock issued from share-based compensation plans	0.11	—	—	—	1.0	—	—	—	—	1.0
Common stock repurchases from share-based compensation plans	(0.02)	—	—	—	(3.0)	—	—	—	—	(3.0)
Preferred stock dividends	—	—	—	—	—	—	(27.3)	—	—	(27.3)
Purchase of noncontrolling interest	—	—	—	—	—	—	—	—	146.3	146.3
Dividend distribution to noncontrolling interest	—	—	—	—	—	—	—	—	(12.2)	(12.2)
Other	—	—	—	—	—	—	(0.1)	—	—	(0.1)
Balance at December 31, 2023	42.75	0.4	0.4	—	1,872.5	(19.3)	922.1	10.8	152.5	2,939.0
Net income	—	—	—	—	—	—	218.5	—	14.3	232.8
Other comprehensive loss	—	—	—	—	—	—	—	(165.9)	(0.4)	(166.3)
Share-based compensation expense	—	—	—	—	18.9	—	—	—	—	18.9
Common stock issued from share-based compensation plans	0.10	—	—	—	1.4	—	—	—	—	1.4

CHART INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(Dollars and shares in millions)

	Common Stock		Preferred Stock							
	Shares Outstanding	Amount	Shares Outstanding	Amount	Additional Paid-in Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Noncontrolling Interests	Total Shareholders' Equity
Common stock repurchases from share-based compensation plans	(0.02)	—	—	—	(3.5)	—	—	—	—	(3.5)
Settlement of warrants	2.83	—	—	—	—	—	—	—	—	—
Settlement of convertible notes	2.34	—	—	—	—	—	—	—	—	—
Exercise of bond hedge	(2.34)	—	—	—	—	—	—	—	—	—
Preferred stock dividends	—	—	—	—	—	—	(27.2)	—	—	(27.2)
Other	—	0.1	—	—	—	—	—	—	—	0.1
Balance at December 31, 2024	45.66	$ 0.5	0.4	$ —	$ 1,889.3	$ (19.3)	$ 1,113.4	$ (155.1)	$ 166.4	$ 2,995.2

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

NOTE 1 — Nature of Operations and Principles of Consolidation

Nature of Operations: We are a global leader in the design, engineering, and manufacturing of process technologies and equipment for gas and liquid molecule handling for the Nexus of Clean™—clean power, clean water, clean food, and clean industrials, regardless of molecule. The company's unique product and solution portfolio across stationary and rotating equipment is used in every phase of the liquid gas supply chain, including engineering, service and repair and from installation to preventive maintenance and digital monitoring. Chart is a leading provider of technology, equipment and services related to liquefied natural gas, hydrogen, biogas, and CO2 capture amongst other applications. Chart is committed to excellence in environmental, social, and corporate governance (ESG) issues both for its company as well as its customers. With over 64 global manufacturing locations and over 50 service centers from the United States to Asia, India and Europe, we maintain accountability and transparency to our team members, suppliers, customers and communities.

On March 17, 2023, we completed the acquisition of Howden, a leading global provider of mission critical air and gas handling products and services, from affiliates of KPS Capital Partners, LP. Results of operations include results of Howden from the date of acquisition and exclude Roots™ business financial results for our entire ownership period of March 17, 2023 through the divestiture date, August 18, 2023. The results of Roots™ are presented as discontinued operations in the consolidated statements of income and comprehensive income (loss) and have been excluded from both continuing operations and segment results for the year ended December 31, 2023. Furthermore, in 2023 we closed the sale of our American Fan, Cryo Diffusion and Cofimco fans businesses. See Note 3, "Discontinued Operations and Other Businesses Sold" for further information regarding these divestitures and Note 13, "Business Combinations", for further information regarding the acquisition of Howden (the "Howden Acquisition").

Principles of Consolidation: The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") and include the accounts of Chart Industries, Inc. and its subsidiaries. Intercompany accounts and transactions are eliminated in consolidation.

NOTE 2 — Significant Accounting Policies

Use of Estimates: The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements. These estimates may also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates and assumptions based on a number of factors including the current macroeconomic conditions such as inflation and supply chain disruptions.

Cash, Cash Equivalents, Restricted Cash, and Restricted Cash Equivalents: We consider all investments with an initial maturity of three months or less when purchased to be cash equivalents. Restricted cash and restricted cash equivalents are included within other current assets as of December 31, 2024 and 2023 in the accompanying consolidated balance sheets. For further information regarding restricted cash and restricted cash equivalents balances, refer to Note 10, "Debt and Credit Arrangements."

Accounts Receivable, Net of Allowances: Accounts receivable includes amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. We maintain an allowance for credit losses to provide for the estimated amount of receivables that will not be collected. The allowance is based upon an assessment of customer creditworthiness, historical payment experience, the age of outstanding receivables and collateral to the extent applicable. In addition, we estimate expected credit losses based on historical loss information then adjust the estimates based on current, reasonable and supportable forecast economic conditions. Past-due trade receivable balances are written off when our internal collection efforts have been unsuccessful. As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component when we expect, at contract inception, that the period between our transfer of a promised product or service to a customer and when the customer pays for that product or service will be one year or less. We do not typically include extended payment terms in our contracts with customers.

Inventories: Inventories are stated at the lower of cost or net realizable value with cost being determined by the first-in, first-out ("FIFO") method. We determine inventory valuation reserves based on a combination of factors. In circumstances where we are aware of a specific problem in the valuation of a certain item, a specific reserve is recorded to reduce the item to its net realizable value. We also recognize reserves based on the actual usage in recent history and projected usage in the near-term.

Unbilled Contract Revenue: Unbilled contract revenue represents contract assets resulting from revenue recognized over time in excess of the amount billed to the customer and the amount billed to the customer is not just subject to the passage of time. Billing requirements vary by contract but are generally structured around the completion of certain milestones. These contract assets are generally classified as current.

Property, Plant and Equipment: Capital expenditures for property, plant and equipment are recorded at cost. Expenditures for maintenance and repairs are charged to expense as incurred, whereas major improvements that extend the useful life are capitalized. The cost of applicable assets is depreciated over their estimated useful lives. Depreciation is computed using the straight-line method for financial reporting purposes and accelerated methods for income tax purposes.

Lessee Accounting: At lease inception, we determine if an arrangement is a lease and if it includes options to extend or terminate the lease if it is reasonably certain that the options will be exercised. Lease expense for lease payments is recognized on a straight-line basis over the lease term for operating leases. Operating leases are recognized as right-of-use ("ROU") assets and are included within property, plant and equipment, net, and lease liabilities are included in other current liabilities and other long-term liabilities in our consolidated balance sheets. Finance leases are recognized as ROU assets and are included within other assets. They are then amortized over the lesser of the lease term or useful economic life of the underlying asset. Operating lease liabilities are included within other current liabilities and other liabilities on the consolidated balance sheets. Finance lease liabilities are included within other current liabilities and other liabilities. ROU assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the lease. Lease ROU assets and liabilities are recognized on the lease commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available on the lease commencement date in determining the present value of lease payments.

Lessor Accounting: Similar to lessee accounting, at lease inception we determine if an arrangement is a lease. The net investment of our lease receivables is measured at the commencement date as the present value of the lease payments not yet received. Operating leases are reported at cost as equipment leased to others within property, plant and equipment, net in our consolidated balance sheets and depreciated based on their useful lives on a straight-line basis. Sales from sales-type and operating leases are presented net of sales tax and other related taxes. Interest income is recognized over the lease term using the effective interest method and is classified as interest expense, net in our consolidated statements of income. Lease payments from operating leases are recorded as income on a straight-line basis over the lease term.

Long-lived Assets: We monitor our property, plant, equipment, and finite-lived intangible assets for impairment indicators on an ongoing basis. Assets are grouped and tested at the lowest level for which identifiable cash flows are available. If impairment indicators exist, we perform the required analysis and record impairment charges, if applicable. In conducting our analysis, we compare the undiscounted cash flows expected to be generated from the long-lived assets to the related net book values. If the undiscounted cash flows exceed the net book value, the long-lived assets are considered not to be impaired. If the net book value exceeds the undiscounted cash flows, an impairment loss is measured and recognized. An impairment loss is measured as the difference between the net book value and the fair value of the long-lived assets. Fair value is estimated from discounted future net cash flows (for assets held and used) or net realizable value (for assets held for sale). Changes in economic or operating conditions impacting these estimates and assumptions could result in the impairment of long-lived assets. We amortize intangible assets that have finite lives over their estimated useful lives.

Goodwill and Indefinite-Lived Intangible Assets: Goodwill is recognized as the excess cost of an acquired entity over the net amount assigned to assets acquired and liabilities assumed. We do not amortize goodwill or indefinite-lived intangible assets, but review them for impairment annually in the fourth quarter or whenever events or changes in circumstances indicate that an evaluation should be completed.

Goodwill is analyzed on a reporting unit basis. The reporting units are the same as our operating and reportable segments, which are as follows: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing. We first evaluate qualitative factors, such as macroeconomic conditions and our overall financial performance to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. We then evaluate how significant each of the identified factors could be to the fair value or carrying amount of a reporting unit and weigh these factors in totality in forming a conclusion of whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount (the "Step 0 Test"). If we determine that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, the first step of the goodwill impairment test is not necessary. Otherwise, we would proceed to the first step of the goodwill impairment test.

Alternatively, we may also bypass the Step 0 Test and proceed directly to the first step of the goodwill impairment test. Under the first step ("Step 1"), we estimate the fair value of the reporting units by considering income and market approaches to develop fair value estimates, which are weighted to arrive at a fair value estimate for each reporting unit. With respect to the income approach, a model has been developed to estimate the fair value of each reporting unit. This fair value model incorporates estimates of future cash flows, estimates of allocations of certain assets and cash flows among reporting units, estimates of future growth rates and management's judgment regarding the applicable discount rates to use to discount such estimates of cash flows. With respect to the market approach, a guideline company method is employed whereby pricing multiples are derived from companies with similar assets or businesses to estimate fair value of each reporting unit. If the fair value of the reporting unit exceeds the carrying amount of the net assets assigned to that reporting unit, then goodwill is not impaired and no further testing is required. However, if the fair value of the reporting unit is less than its carrying amount, the impairment charge is based on the excess of a reporting unit's carrying amount over its fair value (i.e., we would measure the charge based on the result from Step 1).

In order to assess the reasonableness of the calculated fair values of the reporting units, we also compare the sum of the reporting units' fair values to the market capitalization and calculate an implied control premium (the excess of the sum of the reporting units' fair values over the market capitalization). We evaluate the control premium by comparing it to control premiums of recent comparable transactions. If the implied control premium is not reasonable in light of this assessment, we reevaluate the fair value estimates of the reporting units by adjusting the discount rates and other assumptions as necessary.

Changes to the assumptions and estimates used throughout the steps described above may result in a significantly different estimate of the fair value of the reporting units, which could result in a different assessment of the recoverability of goodwill and result in future impairment charges.

With respect to indefinite-lived intangible assets, we first evaluate relevant events and circumstances to determine whether it is more likely than not that the fair value of an indefinite-lived intangible asset is less than its carrying amount. If, in weighing all relevant events and circumstances in totality, we determine that it is more likely than not that an indefinite-lived intangible asset is not impaired, no further action is necessary. Otherwise, we would determine the fair value of indefinite-lived intangible assets and perform a quantitative impairment assessment by comparing the indefinite-lived intangible asset's fair value to its carrying amount. We may bypass such a qualitative assessment and proceed directly to the quantitative assessment. We estimate the fair value of the indefinite-lived assets using the income approach. This may include the relief from royalty method or use of a model similar to the one described above related to goodwill which estimates the future cash flows attributed to the indefinite-lived intangible asset and then discounting these cash flows back to a present value. Under the relief from royalty method, fair value is estimated by discounting the royalty savings, as well as any tax benefits related to ownership to a present value. The fair value from either approach is compared to the carrying value and an impairment is recorded if the fair value is determined to be less than the carrying value.

Equity Method Investments: Investments, including certain of our joint ventures, where Chart has the ability to exercise significant influence over, but does not possess control, are accounted for using the equity method of accounting. Judgment regarding the level of influence over each investment includes considering key factors such as our ownership interest, our representation on the investee's board of directors and participation in policy-making decisions. We recognize the equity method investee's proportionate share of the earnings and losses and classify as equity in earnings of unconsolidated affiliates, net in our consolidated statements of income. We evaluate our equity method investments for impairment whenever events or changes in circumstances indicate that the carrying amounts of such investments may not be recoverable. If a decline in the value of an equity method investment is determined to be other than temporary, an impairment loss is recognized in earnings for the amount by which the carrying amount of the investment exceeds its estimated fair value. Equity method investments are included within other assets in our consolidated balance sheets.

Investments in Equity Securities: We measure certain of our investments in equity securities where we have no significant influence and generally less than 20% ownership interest at fair value on a recurring basis according to the fair value hierarchy as defined below. We reassess measurement options for these investments on a quarterly basis. Mark-to-market fair value adjustments in these investments in equity securities are classified within other expense (income), net in our consolidated statements of income and comprehensive income (loss). Investments in equity securities for which there is no readily determinable fair value are measured at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Investments in equity securities are included within other assets in our consolidated balance sheets.

Customer Advances and Billings in Excess of Contract Revenue: Our contract liabilities consist of advance customer payments, billings in excess of revenue recognized and deferred revenue. Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. We classify advance customer payments and billings in excess of revenue recognized as current. We classify deferred revenue as current or non-current based on the timing of when we expect to recognize revenue. The current portion of deferred revenue is included in customer advances and billings in excess of contract revenue in our consolidated balance sheets. Long-term deferred revenue is included in other long-term liabilities in our consolidated balance sheets.

Preferred Stock and Dividends: Preferred stock is evaluated to determine balance sheet classification, and all conversion and redemption features are evaluated for bifurcation treatment. Proceeds received net of issuance costs are recognized on the settlement date. Cash dividends become a liability once declared. Income available to common stockholders is computed by deducting from net income the dividends accumulated and earned during the period on cumulative preferred stock.

Financial Instruments: The fair values of cash equivalents, accounts receivable, accounts payable and short-term bank debt approximate their carrying amount because of the short maturity of these instruments.

To minimize credit risk from trade receivables, we review the financial condition of potential customers in relation to established credit requirements before sales credit is extended and monitor the financial condition and payment history of customers to help ensure timely collections and to minimize losses. Additionally, for certain domestic and foreign customers, we require advance payments, letters of credit, bankers' acceptances, and other such guarantees of payment. Certain customers also require us to issue letters of credit or performance bonds, particularly in instances where advance payments are involved, as a condition of placing the order.

Fair Value Measurements: We measure our financial assets and liabilities at fair value on a recurring basis using a three-tier fair value hierarchy, which prioritizes the inputs used in the valuation methodologies. The three levels of inputs used to measure fair value are as follows:

Level 1 — Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 — Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Valuations based on unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

Derivative Financial Instruments: We utilize certain derivative financial instruments to enhance our ability to manage foreign currency risk that exists as part of ongoing business operations. Derivative instruments are entered into for periods consistent with related underlying exposures and do not constitute positions independent of those exposures. We do not enter into contracts for speculative purposes nor are we a party to any leveraged derivative instrument. We are exposed to foreign currency exchange risk as a result of transactions in currencies other than the functional currency of certain subsidiaries. We utilize foreign currency forward purchase and sale contracts to manage the volatility associated with foreign currency transactions in the normal course of business. Contracts typically have maturities of less than one year. Principal currencies include the U.S. dollar, the euro, the Chinese yuan, the Czech koruna, the Australian dollar, the British pound, the Canadian dollar, the Indian rupee, the Chilean peso, and South African rand. Our foreign currency forward contracts do not qualify as hedges as defined by accounting guidance. Foreign currency forward contracts are measured at fair value and recorded on the consolidated balance sheets as other long-term liabilities, other current liabilities, other assets or other current assets. Changes in their fair value are recorded in the consolidated statements of income within other expense (income), net. Our foreign currency forward contracts are not exchange traded instruments and, accordingly, the valuation is performed using Level 2 inputs as defined above. Gains or losses on settled or expired contracts are recorded in the consolidated statements of income as foreign currency gains or losses.

We enter into a combination of cross-currency swaps and foreign exchange collars as a net investment hedge of our investments in certain international subsidiaries that use the euro as their functional currency in order to reduce the volatility caused by changes in exchange rates. Our cross-currency swaps and foreign exchange collars are measured at fair value and recorded on the consolidated balance sheets within other assets or other long-term liabilities. Changes in fair value are recorded as foreign currency translation adjustments within accumulated other comprehensive loss. See Note 10, "Debt and Credit Arrangements," for further information regarding the cross-currency swaps and foreign exchange collars.

Our derivative contracts are subject to master netting arrangements or agreements between the Company and each counterparty for the net settlement of all contracts through a single payment in a single currency in the event of a default or termination of any one contract with that certain counterparty. It is our practice to recognize the gross amounts in the consolidated balance sheets.

Business Combinations: We account for business combinations in accordance with Accounting Standards Codification ("ASC") 805, "Business Combinations." We recognize and measure identifiable assets acquired and liabilities assumed based on their estimated fair values. The excess of the consideration transferred over the fair value of the net assets acquired, including identifiable intangible assets, is assigned to goodwill. As additional information becomes available, we may further revise the preliminary acquisition consideration allocation during the remainder of the measurement period, which shall not exceed twelve months from the closing of the acquisition.

Identifiable finite-lived intangible assets generally consist of customer relationships, unpatented technology, patents and trademarks and trade names and are amortized over their estimated useful lives which generally range from 2 to 15 years. Identifiable indefinite-lived intangible assets generally consist of trademarks and trade names and are subject to impairment testing on at least an annual basis. We estimate the fair value of identifiable intangible assets under income approaches where the fair value models incorporate estimates of future cash flows, estimates of allocations of certain assets and cash flows, estimates of future growth rates, and management's judgment regarding the applicable discount rates to use to discount such estimates of cash flows. As such, acquisitions are classified as Level 3 fair value hierarchy measurements and disclosures.

We expense transaction related costs, including legal, consulting, accounting and other costs, in the periods in which the costs are incurred.

Revenue Recognition: Revenue is recognized when (or as) we satisfy performance obligations by transferring a promised good or service to a customer. A contract with a customer exists when there is commitment and approval from both parties involved, the rights of the parties are identified, payment terms are defined, the contract has commercial substance, and collectability of consideration is probable. An asset is transferred to a customer when, or as, the customer obtains control over that asset. In most contracts, the transaction price includes both fixed and variable consideration. The variable consideration contained within our contracts with customers includes discounts, rebates, refunds, credits, price concessions, incentives, performance bonuses, penalties and other similar items. When the period between when we transfer a promised good or service to a customer and when the customer pays for that good or service is expected, at contract inception, to be one year or less, we do not adjust for the effects of a significant financing component. When a contract includes variable consideration, we evaluate the estimate of the variable consideration and determine whether the estimate needs to be constrained; therefore, we include the variable consideration in the transaction price only to the extent that it is probable that a significant reversal of the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Variable consideration estimates are updated at each reporting date. When a contract includes multiple performance obligations, the transaction price is allocated among the performance obligations based upon the stand alone selling prices.

In certain contracts, we are engaged to engineer and build highly-customized products and systems. In these circumstances, we produce an asset with no alternative use and have a right to payment for performance completed to date. For these contracts, revenue is recognized as we satisfy the performance obligations computed using input methods such as costs incurred. Input methods recognize revenue on the basis of the entity's efforts or inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation. The costs incurred input method measures progress toward the satisfaction of the performance obligation by multiplying the transaction price of the performance obligation by the percentage of incurred costs as of the balance sheet date to the total estimated costs at completion after giving effect to the most current estimates. Revisions to estimated cost to complete that result from inefficiencies in our performance that were not expected in the pricing of the contract are expensed in the period in which these inefficiencies become known. Contract modifications can change a contract's scope, price, or both. Approved contract modifications are accounted for as either a separate contract or as part of the existing contract depending on the nature of the modification.

Where contracts do not meet the over time recognition requirements, the company recognizes revenue at a point in time. For these contracts, revenue is recognized when we satisfy our performance obligation to the customer. The specific point in time when control transfers depends on the contract with the customer, contract terms that provide for a present obligation to pay, physical possession, legal title, risk and rewards of ownership, acceptance of the asset, and bill-and-hold arrangements may impact the point in time when control transfers to the customer. We recognize revenue under bill-and-hold arrangements when control transfers and the reason for the arrangement is substantive, the product is separately identified as belonging to the customer, the product is ready for physical transfer and we do not have the ability to use the product or direct it to another customer.

Incremental contract costs are expensed when incurred when the amortization period of the asset that would have been recognized is one year or less; otherwise, incremental contract costs are recognized as an asset and amortized over time as promised goods and services are transferred to a customer. When losses are expected to be incurred on a contract, we recognize the entire anticipated loss in the accounting period when the loss becomes evident. The loss is recognized when the current estimate of the consideration we expect to receive, modified to include unconstrained variable consideration instead of constrained variable consideration, is less than the current estimate of total costs for the contract.

Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction that are collected by us from a customer, are excluded from revenue.

Shipping and handling fee revenues and the related expenses are reported as fulfillment revenues and expenses for all customers. Shipping and handling costs associated with outbound freight are accounted for as fulfillment costs and are included in cost of sales. Amounts billed to customers for shipping are classified as sales, and the related costs are classified as cost of sales on the consolidated statements of income.

Cost of Sales: Manufacturing expenses associated with sales are included in cost of sales. Cost of sales includes all materials, direct and indirect labor, inbound freight, purchasing and receiving, inspection, internal transfers, and distribution and warehousing of inventory. In addition, shop supplies, facility maintenance costs, manufacturing engineering, project management, and depreciation expense for assets used in the manufacturing process are included in cost of sales on the consolidated statements of income.

Selling, General and Administrative (“SG&A”) Expenses: SG&A expenses include selling, marketing, customer service, product management and other administrative expenses not directly supporting the manufacturing process, as well as depreciation expense associated with non-manufacturing assets. In addition, SG&A expenses include corporate operating expenses for executive management, accounting, tax, treasury, corporate development, human resources, information technology, investor relations, legal, internal audit and risk management.

Amortization Expense: Intangible assets with finite useful lives are amortized on a straight-line basis over their estimated useful lives, which vary depending on the type of intangible assets. In determining the estimated useful lives of finite-lived intangible assets, we consider the nature, competitive position, life cycle and historical and expected future operating cash flows of each acquired assets.

Research and Development Costs: We incurred research and development costs of $38.3, $23.3, and $13.5 for the years ended December 31, 2024, 2023, and 2022, respectively. Such costs are expensed as incurred and included in SG&A expenses in the consolidated statements of income.

Foreign Currency Translation: The functional currency for the majority of our foreign operations is the applicable local currency. The translation from the applicable foreign currencies to U.S. dollars is performed for asset and liability accounts using exchange rates in effect at the balance sheet date and for revenue and expense accounts using the average exchange rate during the period. The resulting translation adjustments are recorded as a component of other comprehensive (loss) income in the consolidated statements of comprehensive income (loss). Certain of our foreign entities remeasure from local to functional currencies, which is then translated to the reporting currency of the Company. Remeasurement from local to functional currencies is included in cost of sales or other expense (income), net in the consolidated statements of income. Gains or losses resulting from foreign currency transactions are charged to other expense (income), net in the consolidated statements of income as incurred.

Income Taxes: The Company and its U.S. subsidiaries file a consolidated federal income tax return. Deferred income taxes are provided for temporary differences between financial reporting and the consolidated tax return in accordance with the liability method. A valuation allowance is provided against net deferred tax assets when conditions indicate that it is more likely than not that the benefit related to such assets will not be realized. In assessing the need for a valuation allowance against deferred tax assets, we consider all available evidence, including past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, the valuation allowance will be adjusted with a corresponding impact to the provision for income taxes in the period in which such determination is made.

We utilize a two-step approach for the recognition and measurement of uncertain tax positions. The first step is to evaluate the tax position and determine whether it is more likely than not that the position will be sustained upon examination by tax authorities. The second step is to measure the tax benefit as the largest amount that is more likely than not of being realized upon settlement.

Interest and penalties related to income taxes are accounted for as income tax expense in the consolidated statements of income.

We are subjected to a tax on Global Intangible Low Taxed Income (“GILTI”), which we record as a period cost as incurred.

Share-based Compensation: We measure share-based compensation expense for share-based payments to employees and directors, including grants of employee stock options, restricted stock, restricted stock units and performance units based on the grant-date fair value. The fair value of stock options is calculated using the Black-Scholes pricing model and is recognized on an accelerated basis over the vesting period. The grant-date fair value calculation under the Black-Scholes pricing model requires the use of variables such as exercise term of the option, future volatility, dividend yield, and risk-free interest rate. The fair value of restricted stock and restricted stock units is based on Chart’s market price on the date of grant and is generally recognized on an accelerated basis over the vesting period. The fair value of performance units is based on Chart’s market price on the date of grant and pre-determined performance and market conditions as determined by the Compensation Committee of the Board of Directors and is recognized on a straight-line basis over the performance measurement period based on the probability that the performance and market conditions will be achieved. We reassess the vesting probability of performance units each reporting period and adjust share-based compensation expense based on our probability assessment. Share-based compensation expense for all awards considers estimated forfeitures.

During the year, we may repurchase shares of common stock from equity plan participants to satisfy tax withholding obligations relating to the vesting or payment of equity awards. All such repurchased shares are retired in the period in which the repurchases occur.

Defined Benefit Pension Plans: We sponsor multiple defined benefit pension plans including a plan which has been frozen since February 2006.

The funded status is measured as the difference between the fair value of the plan assets and the projected benefit obligation. The change in the funded status of the plan is recognized in the year in which the change occurs through accumulated other comprehensive (loss) income. Our funding policy is to contribute at least the minimum funding amounts required by law. Management has chosen policies according to accounting guidance that allow the use of a calculated value of plan assets, which generally reduces the volatility of expense (income) from changes in pension liability discount rates and the performance of the pension plans’ assets.

Recently Issued Accounting Standards (Not Yet Adopted): In November 2024, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2024-03, "Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses", which is intended to improve expense disclosures, primarily by requiring disclosure of disaggregated information about certain income statement expense line items on an annual and interim basis. The amendments in this update are effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027. Early adoption is permitted. The updates required by this standard are to be applied prospectively with the option for retrospective application. We are currently assessing the effect this ASU will have on our disclosures.

In December 2023, the FASB issued ASU 2023-09, "Income Taxes (Topic 740): Improvements to Income Tax Disclosures." The amendments in this update enhance the transparency and decision usefulness of income tax disclosures. This update enhances the rate reconciliation by requiring an entity to disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. The update also requires an entity to disclose on an annual basis enhanced information about income taxes paid, income from continuing operations before income tax expense (or benefit) disaggregated between domestic and foreign, and income tax expense (or benefit) from continuing operations disaggregated by federal (national), state, and foreign. The amendments in this update are effective for fiscal years beginning after December 15, 2024. Early adoption is permitted for annual financial statements that have not yet been issued or made available for issuance. We are currently assessing the effect this ASU will have on our disclosures.

Recently Adopted Accounting Standards: In November 2023, the FASB issued ASU 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures." The amendments in this update improve reportable segment disclosure requirements through enhanced disclosures about significant segments expenses. Among other things, this update requires an entity to disclose significant segment expenses that are regularly provided to the chief operating decision maker ("CODM") and included within each reported measure of segment profit or loss. The update also requires entities to disclose other segment items, provide all annual disclosures about a reportable segment's profit and loss and assets currently required by this Topic in interim periods, disclose the title and position of our CODM, and an explanation of how the CODM uses the reported measures of segment profit or loss in assessing segment performance and deciding how to allocate resources. We adopted this guidance effective January 1, 2024, resulting in enhanced disclosure of segment expenses along with greater detail of our CODM and how they use the reported measures of segment profit or loss in assessing segment performance and deciding how to allocate resources. See Note 4, "Segment and Geographic Information" for the enhanced disclosures associated with the adoption of ASU 2023-07.

In March 2020, the FASB issued ASU 2020-04, "Reference Rate Reform (Topic 848), Facilitation of the Effects of Reference Rate Reform on Financial Reporting," and in January 2021, the FASB subsequently issued ASU 2021-01, "Reference Rate Reform (Topic 848): Scope." ASU 2020-04 and the subsequent modifications are identified as ASC 848 ("ASC 848"). ASC 848 simplifies the accounting for modifying contracts (including those in hedging relationships) that refer to LIBOR and other interbank offered rates that are expected to be discontinued due to reference rate reform. Chart transitioned away from LIBOR rates on our debt facilities in early 2023 at which time we adopted this guidance. The adoption of this guidance did not have a material impact on our financial position, results of operations or disclosures.

NOTE 3 — Discontinued Operations and Other Businesses Sold

Roots™ Divestiture

On June 11, 2023, we signed a definitive agreement to divest our Roots business, which we acquired as part of the Howden Acquisition, to Ingersoll Rand Inc. (New York Stock Exchange: IR) ("buyer") for a base purchase price of $300.0, subject to customary adjustments. The sale was completed on August 18, 2023 with proceeds totaling $291.9 before customary estimated closing working capital adjustments, which are complete. The purchase price was subject to a final net working capital adjustment of $2.5, settled in the first quarter of 2024.

We previously determined that our Roots business qualified for discontinued operations and as such, the financial results of the Roots business are reflected in our consolidated statements of income as discontinued operations for our entire ownership period of March 17, 2023 through August 18, 2023.

(Dollars and shares in millions, except per share amounts)

Summarized Financial Information of Discontinued Operations

The following table represents income from discontinued operations, net of tax:

	Year Ended December 31,		
	2024	2023 [(1)]	2022 [(3)]
Sales	$ —	$ 58.8	$ —
Cost of sales	—	41.4	—
Gross profit	—	17.4	—
Selling, general, and administrative expenses	1.3	7.4	74.8
Operating income	(1.3)	10.0	(74.8)
Other expenses:			
Interest expense, net	—	8.9	—
Foreign currency loss	—	0.1	—
Other expense, net	—	9.0	—
(Loss) income before income taxes	(1.3)	1.0	(74.8)
Income tax expense (benefit)	0.2	1.2	(17.2)
Loss from discontinued operations before gain on sale of business	(1.5)	(0.2)	(57.6)
Loss on sale of business, net of $0.5 and $5.4 taxes [(2)]	2.0	0.4	—
Total loss from discontinued operations, net of tax	$ (3.5)	$ (0.6)	$ (57.6)

(1) The Roots business was acquired on March 17, 2023 and held for sale until the sale was completed on August 18, 2023.

(2) The loss (gain) on sale of the Roots business was $2.5 and $(5.0) before taxes for the year ended December 31, 2024 and December 31, 2023, respectively.

(3) Loss from discontinued operations, net of tax for the year ended December 31, 2022 relates to the divestiture of our cryobiological products business and the associated Pacific Fertility lawsuits that Chart retained after the divestiture. We reached a settlement in late January 2023 to resolve the Pacific Fertility Center lawsuits. We recorded a net loss of approximately $73.0 in discontinued operations for the year ended December 31, 2022, which represented the expected out-of-pocket payments in connection with these settlements.

Other Businesses Sold

On October 26, 2023, we signed and closed on the divestiture of our American Fan business to Arcline Investment Management, L.P, with net proceeds totaling $109.7 after customary closing working capital adjustments, which are complete.

On October 31, 2023, we completed the sale of our Cofimco fans business ("Cofimco") to PX3 Partners, with net proceeds totaling $67.4 after customary closing working capital adjustments, which are complete.

NOTE 4 — Segment and Geographic Information

We have four reportable segments which reflect the manner in which our CODM reviews results and allocates resources. Each segment is organized and managed based upon the nature of our markets and customers and consists of similar products and services. Each of our four reportable segments operate globally and are also our operating segments: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing. Our Cryo Tank Solutions segment, which has principal operations in the United States, Europe and Asia, serves most geographic regions around the globe, supplying bulk, microbulk and mobile equipment used in the storage, distribution, vaporization, and application of industrial gases and certain hydrocarbons. Our Heat Transfer Systems segment, with principal operations in the United States and Europe, also serves most geographic regions globally, supplying mission critical engineered equipment and systems used in the recovery, separation, liquefaction, and purification of hydrocarbons, liquefied natural gas (LNG) and industrial gases that span gas-to-liquid applications. Our Specialty Products segment supplies products used in specialty end-market applications including engineered liquefaction, storage and compression equipment for hydrogen and helium, LNG for over-the-highway vehicles, biofuels, carbon capture, food and beverage, aerospace, nuclear, marine, mining, lasers and water treatment end markets. Our Repair, Service & Leasing segment provides installation, retrofitting and refurbishment, services and repairs, preventative and contractual maintenance, and digital solutions of Chart's stationary (liquefaction, fueling stations, among other products) and rotating equipment (compression, fans, among other products) globally in addition to providing targeted equipment leasing solutions.

(Dollars and shares in millions, except per share amounts)

Corporate includes operating expenses for executive management, accounting, tax, treasury, corporate development, human resources, information technology ("IT"), investor relations, legal, internal audit, and risk management. Corporate support functions are not currently allocated to the segments.

Our CODM, who is our Chief Executive Officer and President, evaluates each segment's performance and allocates resources based on operating income as determined in our consolidated statements of income. The CODM uses operating income for each segment predominantly in the annual budget and forecasting process. The CODM considers budget-to-actual and current-to-prior period actual variances on a quarterly basis when making decisions about the allocation of operating and capital resources to each segment. Furthermore, the CODM uses segment operating income for evaluating pricing strategy and assessing the performance of each segment by comparing the results of each segment with one another and in determining the compensation of certain employees.

Segment Financial Information

	Year Ended December 31, 2024						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Total Segments	Corporate & Intersegment Eliminations	Consolidated
Sales	$ 637.9	$ 1,035.3	$ 1,114.3	$ 1,372.7	$ 4,160.2	$ 0.1	$ 4,160.3
Cost of sales	494.4	736.3	813.2	727.5	2,771.4	0.1	2,771.5
Selling, general and administrative expenses	61.2	45.6	106.6	150.0	363.4	184.0	547.4
Amortization expense	7.7	20.1	21.4	144.7	193.9	—	193.9
Operating income (loss)	74.6	233.3	173.1	350.5	831.5	(184.0)	647.5
Depreciation expense [(1)]	14.3	17.7	8.3	27.7	68.0	8.0	76.0

	Year Ended December 31, 2023						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Total Segments	Corporate & Intersegment Eliminations	Consolidated
Sales	$ 640.8	$ 891.2	$ 819.9	$ 1,029.2	$ 3,381.1	$ (28.6)	$ 3,352.5
Cost of sales	508.8	644.4	598.5	589.0	2,340.7	(28.6)	2,312.1
Selling, general and administrative expenses	70.9	54.1	82.6	116.1	323.7	162.6	486.3
Amortization expense	6.6	16.9	19.1	120.8	163.4	—	163.4
Operating income (loss)	54.5	175.8	119.7	203.3	553.3	(162.6)	390.7
Depreciation expense [(1)]	16.6	15.7	5.6	24.3	62.2	5.5	67.7

	Year Ended December 31, 2022						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Total Segments	Corporate & Intersegment Eliminations	Consolidated
Sales	$ 504.3	$ 462.7	$ 448.3	$ 209.6	$ 1,624.9	$ (12.5)	$ 1,612.4
Cost of sales	405.6	372.1	309.7	130.1	1,217.5	(12.5)	1,205.0
Selling, general and administrative expenses	41.8	24.0	55.6	15.2	136.6	77.9	214.5
Amortization expense	2.9	14.9	10.1	13.3	41.2	0.2	41.4
Operating income (loss)	54.0	51.7	72.9	51.0	229.6	(78.1)	151.5
Depreciation expense [(1)]	13.8	14.4	6.3	3.8	38.3	2.2	40.5

(1) Depreciation disclosed by reportable segment is included within cost of sales and selling, general and administrative expenses.

(Dollars and shares in millions, except per share amounts)

Sales by Geography

Net sales by geographic area are reported by the destination of sales.

	Year Ended December 31, 2024					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America [1]	$ 275.7	$ 637.8	$ 441.1	$ 535.3	$ —	$ 1,889.9
Europe, Middle East, Africa and India	223.7	155.5	319.7	546.0	0.1	1,245.0
Asia-Pacific [2]	122.9	222.4	336.3	225.1	—	906.7
Rest of the World	15.6	19.6	17.2	66.3	—	118.7
Total	$ 637.9	$ 1,035.3	$ 1,114.3	$ 1,372.7	$ 0.1	$ 4,160.3

	Year Ended December 31, 2023					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America [1]	$ 309.5	$ 594.0	$ 307.6	$ 317.6	$ (13.1)	$ 1,515.6
Europe, Middle East, Africa and India	210.0	115.3	230.3	468.4	(9.9)	1,014.1
Asia-Pacific [2]	114.4	163.8	266.3	203.3	(5.1)	742.7
Rest of the World	6.9	18.1	15.7	39.9	(0.5)	80.1
Total	$ 640.8	$ 891.2	$ 819.9	$ 1,029.2	$ (28.6)	$ 3,352.5

	Year Ended December 31, 2022					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America [1]	$ 214.8	$ 323.5	$ 302.2	$ 147.0	$ (6.6)	$ 980.9
Europe, Middle East, Africa and India	185.7	97.5	113.2	41.9	(3.9)	434.4
Asia-Pacific [2]	98.1	40.1	32.2	19.3	(1.8)	187.9
Rest of the World	5.7	1.6	0.7	1.4	(0.2)	9.2
Total	$ 504.3	$ 462.7	$ 448.3	$ 209.6	$ (12.5)	$ 1,612.4

(1) Consolidated sales in the United States were $1,659.0, $1,387.7 and $938.5 for the years ended December 31, 2024, 2023 and 2022, respectively and represent 39.9%, 41.4% and 58.2% of consolidated sales for the same periods, respectively.

(2) Consolidated sales in China were $565.4, $460.9 and $58.3 for the years ended December 31, 2024, 2023 and 2022, respectively and represent 13.6%, 13.7% and 3.6% of consolidated sales for the same periods, respectively.

No single customer accounted for more than 10% of consolidated sales for any of the periods presented in the tables above.

(Dollars and shares in millions, except per share amounts)

Total Assets

Corporate assets mainly include cash and cash equivalents and long-term deferred income taxes as well as certain corporate-specific property, plant and equipment, net and certain investments. Our allocation methodology for property, plant and equipment, net of the reportable segments differs from our allocation method of depreciation expense of a reportable segment and therefore, depreciation expense does not entirely align with the related depreciable assets of the reportable segments. Furthermore, since finite-lived intangible assets are excluded from total assets of reportable segments while amortization expense is allocated to each of our reportable segments, amortization expense by segment inherently does not align with the related amortizable intangible assets of the reportable segments.

	December 31,	
	2024	2023
Cryo Tank Solutions	$ 614.0	$ 706.1
Heat Transfer Systems	669.7	560.7
Specialty Products	920.6	647.8
Repair, Service & Leasing	889.9	950.1
Total assets of reportable segments	3,094.2	2,864.7
Goodwill [(1)]	2,899.9	2,906.8
Identifiable intangible assets, net [(1)]	2,540.6	2,791.9
Corporate	589.2	539.0
Total assets	$ 9,123.9	$ 9,102.4

(1) See Note 9, "Goodwill and Intangible Assets," for further information related to goodwill and identifiable intangible assets, net.

Geographic Information

	Property, plant and equipment, net as of December 31,	
	2024	2023
United States	$ 420.9	$ 356.9
Foreign		
Germany	99.7	106.7
China	94.0	106.4
Italy	46.9	54.6
United Kingdom	34.1	25.7
India	30.7	34.0
Czech Republic	30.4	34.0
Other foreign countries	107.5	119.3
Total foreign	443.3	480.7
Total	$ 864.2	$ 837.6

(Dollars and shares in millions, except per share amounts)

NOTE 5 — Revenue

Disaggregation of Revenue

The following tables represent a disaggregation of revenue by timing of revenue along with the reportable segment for each category:

	Year Ended December 31, 2024					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
Point in time	$ 348.6	$ 11.3	$ 166.3	$ 781.4	$ —	$ 1,307.6
Over time	289.3	1,024.0	948.0	591.3	0.1	2,852.7
Total	$ 637.9	$ 1,035.3	$ 1,114.3	$ 1,372.7	$ 0.1	$ 4,160.3

	Year Ended December 31, 2023					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service and Leasing	Intersegment Eliminations	Consolidated
Point in time	$ 444.7	$ 27.4	$ 148.4	$ 603.3	$ (18.0)	$ 1,205.8
Over time	196.1	863.8	671.5	425.9	(10.6)	2,146.7
Total	$ 640.8	$ 891.2	$ 819.9	$ 1,029.2	$ (28.6)	$ 3,352.5

	Year Ended December 31, 2022					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
Point in time	$ 443.4	$ 27.3	$ 214.8	$ 104.4	$ (8.8)	$ 781.1
Over time	60.9	435.4	233.5	105.2	(3.7)	831.3
Total	$ 504.3	$ 462.7	$ 448.3	$ 209.6	$ (12.5)	$ 1,612.4

Refer to Note 4, "Segment and Geographic Information," for a table of revenue by reportable segment disaggregated by geography.

Contract Balances

The following table represents changes in our contract assets and contract liabilities balances:

	December 31,	
	2024	2023
Contract assets		
Unbilled contract revenue	735.1	481.7
Contract liabilities		
Customer advances and billings in excess of contract revenue	$ 362.2	$ 376.6

Revenue recognized for the years ended December 31, 2024 and 2023, that was included in the contract liabilities balance at the beginning of each year was $332.9 and $116.0, respectively. The amount of revenue recognized during the year ended December 31, 2024 from performance obligations satisfied or partially satisfied in previous periods as a result of changes in the estimates of variable consideration related to long-term contracts, was not significant. The increase in contract assets as of December 31, 2024 compared to December 31, 2023 was driven by an increase in revenue recognized on an over time basis.

Remaining Performance Obligations

Remaining performance obligations represent the transaction price of firm signed purchase orders or other written contractual commitments from customers for which work has not been performed, or is partially completed, and excludes unexercised contract options and potential orders. As of December 31, 2024, the estimated revenue expected to be recognized in the future related to remaining performance obligations was $4,845.1, which is equivalent to our backlog. We expect to recognize revenue on approximately 59% of the remaining performance obligations over the next 12 months with the remaining balance recognized over the next few years thereafter.

(Dollars and shares in millions, except per share amounts)

NOTE 6 — Investments

Equity Method Investments

The following table represents the activity in equity method investments, which are classified within other assets:

	Equity Method Investments
Balance at December 31, 2022	$ 93.0
New investments	15.3
Equity in earnings	2.7
Foreign currency translation gain	1.0
Dividends received from equity method investments	(2.1)
Balance at December 31, 2023	$ 109.9
Equity in loss of unconsolidated affiliates	(5.2)
Foreign currency translation adjustments and other	(7.7)
Dividends received from equity method investments	(3.0)
Balance at December 31, 2024	$ 94.0

Investments in equity securities

The following table represents the activity in investments in equity securities, which are classified within other assets:

	Investment in Equity Securities, Level 1	Investment in Equity Securities, Level 2	Investments in Equity Securities, All Others [1]	Investments in Equity Securities Total
Balance at December 31, 2022	$ 17.2	$ 7.8	$ 71.5	$ 96.5
New investments	—	—	8.7	8.7
Decrease in fair value of investments in equity securities	(12.7)	(1.7)	—	(14.4)
Foreign currency translation adjustments and other	0.3	—	0.1	0.4
Balance at December 31, 2023	$ 4.8	$ 6.1	$ 80.3	$ 91.2
New investments	—	—	13.1	13.1
(Decrease) increase in fair value of investments in equity securities	(3.1)	1.8	12.0	10.7
Foreign currency translation adjustments and other	(0.2)	—	(0.2)	(0.4)
Balance at December 31, 2024	$ 1.5	$ 7.9	$ 105.2	$ 114.6

(1) Consists of investments in equity securities without a readily determinable fair value. Such investments are measured at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for an identical or a similar investment of the same issuer.

Co-Investment Agreement

On September 7, 2021, we entered into a Co-investment agreement with I Squared Capital ("ISQ"), an infrastructure-focused private equity firm (the "Co-Investment Agreement"), pursuant to which Chart and ISQ have agreed to the following:

- In the following circumstances, ISQ shall have the right but not the obligation to require Chart to purchase all (and not less than all) of the shares of HTEC common stock acquired as part of ISQ's investment (the "Put Option"):
    i. the third anniversary of the Closing Date,

ii. the date Chart undergoes a change of control (subject to certain exceptions),

iii. the date upon which Chart, during the period from the Closing Date through the third anniversary of the Closing Date, has made certain distributions to its shareholders (including cash or other dividends, or via a spin-off transaction), in excess of $900.0,

iv. the date, if any, upon which our leverage ratio exceeds certain thresholds and

v. the date, if any, of a bankruptcy event (including certain insolvency-related actions) involving Chart.

- Conversely, at any time after the third anniversary of the Closing Date, we shall have the right to purchase from ISQ up to 20% of the shares of HTEC common stock acquired as part of the ISQ Investment (the “Call Option”). In exchange for the common stock, we shall pay ISQ the greater of (i) an internal rate of return of 12.5% and (ii) a multiple on ISQ’s invested capital of 1.65x.
- In addition, we shall have (i) a right of first offer: if ISQ desires to transfer any of its HTEC common stock to any third party, we shall have the right to first offer provided that upon notice, we shall have the option to make a first offer to purchase the offered interest in cash exclusively and (ii) a right of first refusal: if ISQ desires to sell its HTEC common stock to any third party pursuant to a definitive agreement therewith, we shall have the right of first refusal provided that the purchase consideration paid by Chart to ISQ upon our exercise of such right of first refusal must be equal to 102% of the purchase consideration agreed to be paid by such third party.
- The Co-Investment Agreement shall terminate automatically upon the consummation of an initial public offering by HTEC of its common stock.

Tri-Party Agreement

The Put Option and the Call Option were exercisable as of September 7, 2024, which was the third anniversary of the Closing Date. On October 2, 2024, we entered into a Tri-Party Agreement by and among HTEC and ISQ, where among other things and in reference to the Put Option and Call Option (together “the Options”), ISQ and Chart agree, with HTEC and each other, to refrain from exercising their respective Options, as applicable, until no earlier than May 1, 2025.

From and after May 1, 2025, ISQ shall have the right to exercise its Put Option. Following ISQ’s election to exercise its Put Option, Chart shall pay ISQ an amount equal to a purchase price of either (i) (x) $225.0 if paid solely in cash or (y) $250.0 if not paid solely in cash or (ii) three equal installments of $75.0 under clause (x) or $83.3 under clause (y) for a total combined purchase price of $225.0 under clause (x) or $250.0 under clause (y). The cumulative installment payments are owed no later than September 30, 2025 following ISQ’s election to exercise its Put Option. Chart may pay any Put Option purchase price, at its option, in either immediately available funds (in U.S. dollars), Chart common stock, or a combination of immediately available funds (in U.S. dollars) and Chart common stock.

In February 2025, we executed a Letter of Intent with a third party to assume and replace the Put Option and structure the revised Put Option similar to the existing Put Option set out in the September 2021 Co-Investment Agreement so that the Put Option would not be exercisable until 2028, subject to similar exercise conditions in the September 2021 Co-Investment Agreement.

We record the Options at fair value and record any change in fair value through earnings at each reporting period. The fair value of the Options was not material on the Closing Date or at December 31, 2024 and 2023.

Hy24 (f/k/a FiveT Hydrogen Fund and Clean H2 Infra Fund)

On April 5, 2021, we were admitted as an anchor investor in Hy24 (the “Hydrogen Fund”). Hy24 is a joint venture between Ardian, a European investment house, and FiveT Hydrogen, an investment manager specialized purely on clean hydrogen investments. Our total investment is euro 14.2 million (equivalent to $14.7) making our unfunded commitment euro 35.8 million (equivalent to $37.2).

(Dollars and shares in millions, except per share amounts)

NOTE 7 — Inventories

The following table summarizes the components of inventory:

	December 31, 2024	December 31, 2023
Raw materials and supplies	$ 264.3	$ 274.8
Work in process	104.9	155.4
Finished goods	121.3	146.1
Total inventories, net	$ 490.5	$ 576.3

NOTE 8 — Property, Plant and Equipment

The following table summarizes the components of property, plant and equipment:

Classification	Estimated Useful Life	December 31, 2024	December 31, 2023
Land and buildings	20-35 years	$ 625.1	$ 526.9
Machinery and equipment	3-12 years	387.6	361.6
Computer equipment, furniture and fixtures	3-7 years	68.4	75.1
Right-of-use assets		106.7	90.4
Construction in process		68.9	142.9
Total property, plant and equipment, gross		1,256.7	1,196.9
Less: Accumulated depreciation		(392.5)	(359.3)
Total property, plant and equipment, net		$ 864.2	$ 837.6

Depreciation expense was $76.0, $67.7 and $40.5 for the years ended December 31, 2024, 2023, and 2022, respectively. Capital expenditures of $13.4 and $28.4 are included in accounts payable in our consolidated balance sheet at December 31, 2024 and 2023, respectively.

NOTE 9 — Goodwill and Intangible Assets

Goodwill

The following table represents the activity in goodwill net of accumulated goodwill impairment loss ("goodwill, net") and accumulated goodwill impairment loss by segment for 2024:

	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Consolidated
Goodwill, net balance at December 31, 2023	$ 219.3	$ 480.4	$ 567.9	$ 1,639.2	$ 2,906.8
Foreign currency translation adjustments and other	(10.2)	(4.6)	(10.8)	(23.9)	(49.5)
Purchase price adjustment [1]	2.6	1.3	10.9	27.8	42.6
Goodwill, net balance at December 31, 2024	$ 211.7	$ 477.1	$ 568.0	$ 1,643.1	$ 2,899.9
Accumulated goodwill impairment loss at December 31, 2023	$ 23.5	$ 49.3	$ 35.8	$ 20.4	$ 129.0
Accumulated goodwill impairment loss at December 31, 2024	$ 23.5	$ 49.3	$ 35.8	$ 20.4	$ 129.0

(1) Purchase accounting adjustments, which were recorded during the first quarter 2024, related to the Howden Acquisition. See Note 13, "Business Combinations" for further information.

(Dollars and shares in millions, except per share amounts)

The following table represents the activity in goodwill net of accumulated goodwill impairment loss ("goodwill, net") and accumulated goodwill impairment loss by segment for 2023 [(1)]:

	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Consolidated
Goodwill, net balance at December 31, 2022	$ 79.1	$ 430.5	$ 304.0	$ 178.4	$ 992.0
Foreign currency translation adjustments and other	3.3	0.8	—	0.1	4.2
Goodwill acquired during the period [(1)]	204.2	59.1	304.4	1,517.6	2,085.3
Divestitures [(2)]	(67.3)	(10.0)	(40.6)	(57.2)	(175.1)
Purchase price adjustments [(3)]	—	—	0.1	0.3	0.4
Goodwill, net balance at December 31, 2023	$ 219.3	$ 480.4	$ 567.9	$ 1,639.2	$ 2,906.8
Accumulated goodwill impairment loss at December 31, 2022	$ 23.5	$ 49.3	$ 35.8	$ 20.4	$ 129.0
Accumulated goodwill impairment loss at December 31, 2023	$ 23.5	$ 49.3	$ 35.8	$ 20.4	$ 129.0

(1) Goodwill acquired during the period was $2,085.3. All goodwill acquired during the period is related to the Howden Acquisition.

(2) Refer to Note 3, "Discontinued Operations and Other Businesses Sold" for information regarding divestitures.

(3) During the year ended December 31, 2023, we recorded purchase price adjustments which increased goodwill by $0.1 in our Specialty Products segment related to the 2022 acquisition of Fronti Fabrications, Inc. ("Fronti) and increased goodwill by $0.3 in our Repair, Service & Leasing segment related to the 2022 acquisition of CSC Cryogenic Service Center AB ("CSC").

Intangible Assets

The following table displays the gross carrying amount and accumulated amortization for finite-lived intangible assets and indefinite-lived intangible assets (exclusive of goodwill) [(1)]:

		December 31, 2024		December 31, 2023	
	Estimated Useful Life	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets:					
Customer relationships	4 to 18 years	$ 1,762.1	$ (284.6)	$ 1,836.4	$ (185.2)
Technology	5 to 18 years	493.6	(113.2)	496.7	(78.8)
Patents, backlog and other	2 to 10 years	134.8	(78.1)	138.6	(35.6)
Trademarks and trade names	5 to 23 years	2.5	(1.9)	3.3	(1.9)
Land use rights	50 years	10.1	(2.1)	10.2	(1.9)
Total finite-lived intangible assets		$ 2,403.1	$ (479.9)	$ 2,485.2	$ (303.4)
Indefinite-lived intangible assets:					
Trademarks and trade names [(2)]		$ 617.4	$ —	$ 610.1	$ —
Total intangible assets		$ 3,020.5	$ (479.9)	$ 3,095.3	$ (303.4)

(1) Amounts include the impact of foreign currency translation. Fully amortized or impaired amounts are written off.

(2) Accumulated indefinite-lived intangible assets impairment loss was $16.0 at both December 31, 2024 and 2023.

(Dollars and shares in millions, except per share amounts)

Amortization expense for finite-lived intangible assets was $193.9, $163.4 and $41.4 for the years ended December 31, 2024, 2023, and 2022, respectively. We estimate amortization expense to be recognized during the next five years as follows:

For the Year Ending December 31,		
2025	$	196.1
2026		160.0
2027		147.6
2028		142.6
2029		139.1

See Note 13, “Business Combinations,” for further information related to intangible assets acquired.

(Dollars and shares in millions, except per share amounts)

NOTE 10 — Debt and Credit Arrangements

Summary of Outstanding Borrowings

The following table represents the components of our borrowings:

	December 31, 2024	December 31, 2023
Senior secured and senior unsecured notes:		
Principal amount, senior secured notes due 2030	$ 1,460.0	$ 1,460.0
Principal amount, senior unsecured notes due 2031	510.0	510.0
Unamortized discount	(23.5)	(26.9)
Unamortized debt issuance costs	(28.8)	(32.9)
Senior secured and senior unsecured notes, net of unamortized discount and debt issuance costs	1,917.7	1,910.2
Senior secured revolving credit facilities and term loans:		
Term loans due March 2030	1,581.0	1,631.0
Senior secured revolving credit facility due April 2029	205.0	102.8
Unamortized discount	(31.3)	(35.8)
Unamortized debt issuance costs	(32.3)	(32.5)
Senior secured revolving credit facility and term loan, net of unamortized discount and debt issuance costs	1,722.4	1,665.5
Convertible notes due November 2024:		
Principal amount	—	258.7
Unamortized debt issuance costs	—	(0.9)
Convertible notes due November 2024, net of unamortized debt issuance costs	—	257.8
Other debt facilities	1.5	1.4
Total debt, net of unamortized debt issuance costs	3,641.6	3,834.9
Less: Current maturities [(1)]	0.9	258.5
Long-term debt	$ 3,640.7	$ 3,576.4

(1) Our convertible notes due November 2024, which were settled as of December 31, 2024, net of unamortized debt issuance costs, are included in current maturities for the year ended December 31, 2023.

The following table represents the scheduled maturities for our borrowings, excluding unamortized debt issuance costs, for the next five years:

For the Year Ended December 31,	
2025	$ 0.9
2026	—
2027	—
2028	—
2029	205.0
Thereafter	3,551.6
Total	$ 3,757.5

Cash paid for interest during the years ended December 31, 2024, 2023 and 2022 was $305.0, $219.8 and $25.7, respectively.

Senior Secured and Unsecured Notes

On December 22, 2022, we completed the issuance and sale of (i) $1,460.0 aggregate principal amount of 7.500% Secured Notes at an issue price of 98.661% and (ii) $510.0 aggregate principal amount of 9.500% Unsecured Notes (together with the Secured Notes, the "Notes"), at an issue price of 97.949%. The Secured Notes mature on January 1, 2030, and the Unsecured Notes mature on January 1, 2031. The effective interest rate on the Secured Notes and Unsecured Notes is 7.8% and 9.9%, respectively, after accounting for original issue discounts and debt issuance costs. The Notes were issued to finance the Howden Acquisition. Net proceeds received from the offering of each series of Notes was deposited in an escrow account and classified as restricted cash.

The Notes are fully and unconditionally guaranteed by each of Chart's wholly owned domestic restricted subsidiaries that is a borrower or a guarantor under Chart's fifth amended and restated credit agreement, dated as of October 18, 2021 (as amended, restated, supplemented, or otherwise modified from time to time, the "Credit Agreement"). The Secured Notes and the related guarantees are secured by first-priority liens on substantially all of the assets of the Company and the Guarantors, subject to certain exceptions.

We may redeem either series of the Notes, in whole or in part, at any time on or after January 1, 2026, at the redemption prices set forth in the respective indentures. We may also redeem up to 40% of the aggregate principal amount of each series of the Notes on or prior to January 1, 2026, in an amount not to exceed the net cash proceeds from certain equity offerings at the redemption prices set forth in the respective indentures. Prior to January 1, 2026, we may redeem some or all of either series of the Notes at a price which includes the applicable "make-whole" premium set forth in the respective indentures.

If Chart experiences a change of control (as defined in the respective indentures), the Notes are able to be redeemed by the holders at 101%, plus accrued and unpaid interest, if any, to (but not including) the date the Notes are purchased.

Senior Secured Revolving Credit Facility and Term Loans

Senior Secured Revolving Credit Facility

Our fifth amended and restated credit agreement dated as of April 8, 2024, as amended (the "Credit Agreement") provides for a senior secured revolving credit facility (the "SSRCF"), which matures on April 6, 2029.

- The SSRCF has a borrowing capacity of $1,250.0 and includes a sub limit for letters of credit that is the greater of (x) $350.0 and (y) $150.0 plus (1) the Dollar Amount (as of the Amended Closing Date) of the Assumed Letters of Credit plus (2) the Dollar Amount of any Letters of Credit issued on the Amendment Closing Date, a $200.0 sub limit for discretionary letters of credit and a $100.0 sub-limit for swingline loans.
- We may, subject to the satisfaction of certain conditions, request one or more new commitments and/or increase in the amount of the SSRCF. Each incremental term commitment and incremental revolving commitment shall be in an aggregate principal amount that is not less than $10.0 and shall be in an increment of $1.0 to the extent existing or new lenders agree to provide such increased or additional commitments, as applicable.
- The SSRCF bears interest at a base rate plus an applicable margin determined on a leveraged-based scale which (before giving effect to the sustainability pricing adjustments described below) ranges from 25 to 125 basis points for base rate loans and 125 to 225 basis points for Secured Overnight Financing Rate ("SOFR") loans.
- The applicable margin described above is subject to further adjustments based on the reductions in the ratio between (i) the total greenhouse gas emissions, measured in metric tons CO_2e, of Chart and its subsidiaries during such calendar year and (ii) the aggregate revenue, measured in U.S. Dollars, of Chart and its subsidiaries during such calendar year. These additional pricing adjustments range from an addition of 0.05% to a reduction of 0.05% in the applicable margin described above.
- We are required to pay commitment fees on any unused commitments under the SSRCF which, before giving effect to the sustainability fee adjustments (as described below), is determined on a leverage-based sliding scale ranging from 20 to 35 basis points.
- The commitment fees described above are also subject to sustainability fee adjustments based on the aforementioned ratio. The sustainability fee adjustments range from an addition of 0.01% to a reduction of 0.01%.

- Interest and fees are payable on a quarterly basis (or if earlier, at the end of each interest period for SOFR loans). and includes sub limits for letters of credit and swingline loans.

At December 31, 2024, there were $205.0 in borrowings outstanding under the SSRCF bearing an interest rate of 7.0% (6.2% as of December 31, 2023) and $277.5 in letters of credit and bank guarantees outstanding supported by the SSRCF. As of December 31, 2024, we had unused borrowing capacity of $767.5.

A portion of borrowings outstanding under the SSRCF are denominated in euros ("EUR Revolver Borrowings"). EUR Revolver Borrowings outstanding were euro 78.0 million (equivalent to $81.0) at December 31, 2024 and euro 88.5 million (equivalent to $97.8) at December 31, 2023.

Significant financial covenants for the SSRCF include financial maintenance covenants that, as of the last day of any fiscal quarter ending on and after September 30, 2021, (i) require the ratio of the amount of Chart and its subsidiaries' consolidated total net indebtedness to consolidated EBITDA to be less than the Maximum Total Net Leverage Ratio Levels and (ii) require the ratio of the amount of Chart and its subsidiaries' consolidated EBITDA to consolidated cash interest expense to be greater than the Minimum Interest Coverage Ratio Levels. The SSRCF includes a number of other customary covenants including, but not limited to, restrictions on our ability to incur additional indebtedness, create liens or other encumbrances, sell assets, enter into sale and lease-back transactions, make certain payments, investments, loans, advances or guarantees, make acquisitions and engage in mergers or consolidations and pay dividends or distributions. At December 31, 2024, we were in compliance with all covenants.

The SSRCF also contains customary events of default. If such an event of default occurs, the lenders thereunder would be entitled to take various actions, including the acceleration of amounts due and all actions permitted to be taken by a secured creditor. The SSRCF is guaranteed by Chart and substantially all of its U.S. subsidiaries, and secured by substantially all of the assets of Chart and its U.S. subsidiaries and 65% of the capital stock of our material non-U.S. subsidiaries (as defined by the Credit Agreement) that are owned by U.S. subsidiaries.

Term Loans

On October 2, 2023, Chart refinanced the remaining aggregate principal amounts of our term loans plus accrued interest in exchange for term loans due March 2030 in the aggregate principal amount of $1,781.0 which matures on March 18, 2030. On December 4, 2023, we voluntarily prepaid a portion of our term loans due March 2030 in the amount of $150.0, which effectively prepaid all equal quarterly installments for the life of the loan, and as of December 31, 2024, the aggregate principal amount of $1,581.0 is due at the March 18, 2030 maturity date. As a result of the events of both the October 2, 2023 Credit Agreement amendment and the December 4, 2023 partial prepayment of the term loans due March 2030, we recognized a loss on extinguishment of debt of $7.8 for the year ended December 31, 2023. On July 2, 2024, we entered into amendment No. 7 to our Credit Agreement, which among other things reduces the interest rate margins applicable to the term loans due March 2030. In connection with this amendment, we repaid a portion of our term loans due March 2030 in the amount of $50.0. As of December 31, 2024, the term loans due March 2030 bore an interest rate of 7.1% (8.7% as of December 31, 2023). The effective interest rate on the term loans due March 2030 is 9.1% after accounting for original issue discount and debt issuance costs.

Chart may elect the interest rate for the term loans due March 2030 equal to (i) the Applicable Margin (2.50%), or (ii) the Alternate Base Rate (a rate per annum equal to the greatest of (a) the rate of interest last quoted by The Wall Street Journal in the U.S. as the prime rate, (b) the NYFRB Rate in effect plus 0.50%, (c) Adjusted Term SOFR for a one month Interest Period plus 1.00%, and (d) 1.50% plus the Applicable Margin (2.25%). Chart may elect interest periods of 1, 3, or 6 months. Interest shall be payable in arrears for (a) for loans accruing interest at a rate based on Adjusted Term SOFR, at the end of each interest period and, for interest periods of greater than three months, every three months, and on the applicable maturity date and (b) for loans accruing interest based on the Alternate Base Rate, quarterly in arrears and on the applicable maturity date.

The allowance of incremental facilities is substantially identical to those in the SSRCF, except (i) to permit the incurrence of a standalone letter of credit facility and (ii) that if the yield of any incremental facility that is in a U.S. dollar denominated term loan facility that is secured by liens on the collateral that is incurred within twelve months after the Closing Date, the applicable margins for the term loans due March 2030 may increase under certain circumstances. Additionally, the refinancing facilities are substantially identical to those set forth in the SSRCF.

Chart may prepay the term loans due March 2030 in whole or in part at any time without penalty or premium, with the exception of a repricing event with respect to all or any portion of the term loans due 2030 that occurs on or before the date that is six months after the Closing Date.

The term loans due March 2030 will be equal in right of payment with any other senior indebtedness of Chart and, if needed, shall be subject to an equal intercreditor agreement with respect to the SSRCF.

The term loans due March 2030 are guaranteed by each wholly-owned domestic subsidiary that is also a guarantor under the SSRCF.

Significant financial covenants and customary events of default for the term loans due March 2030 is substantially identical to those in the SSRCF.

2024 Convertible Notes and Convertible Note Hedge and Warrant Transactions

On November 6, 2017, we issued 1.00% Convertible Senior Subordinated Notes due November 2024 (the “2024 Notes”) in the aggregate principal amount of $258.8, pursuant to an Indenture, dated as of such date (the “Indenture”) and First Supplemental Indenture dated December 31, 2020. Interest rates for the 2024 Notes were 1.00% for 2024 and 2023 and 1.5% for 2022.

On November 15, 2024, the 2024 Notes matured, and Chart paid $258.7 in cash to settle the outstanding principal amount of the 2024 Notes and issued 2.34 shares of common stock to holders who elected to convert the 2024 Notes.

In connection with the pricing of the 2024 Notes, we entered into privately negotiated convertible note hedge transactions (the “Note Hedge Transactions”) with certain parties, including affiliates of the initial purchasers of the 2024 Notes (the “Option Counterparties”) which relate to 4.41 shares of our common stock and represents the number of shares of our common stock underlying the 2024 Notes. In November 2024, we exercised our option under the Note Hedge Transactions and received 2.34 shares of Chart common stock from the Option Counterparties.

We also entered into separate, privately negotiated warrant transactions (the “Warrant Transactions”) with the Option Counterparties to acquire up to 4.41 shares of our common stock. In December 2024, the Warrant Transactions were settled, and Chart issued 2.83 shares of Chart common stock to the Option Counterparties. As of December 31, 2024, the 2024 Notes, Note Hedge Transactions and Warrant Transactions are fully settled.

Other Debt Facilities

In various markets where we do business, we have local credit facilities to meet local working capital demands, fund letters of credit and bank guarantees, and support other short-term cash requirements. The facilities generally have variable interest rates and are denominated in local currency but may, in some cases, facilitate borrowings in multiple currencies. As of December 31, 2024 we had additional capacity of U.S. dollar equivalent $63.7.

Certain of our other debt facilities allow us to request bank guarantees and letters of credit. None of these facilities allow revolving credit borrowings. We have letters of credit and bank guarantees outside of our Credit Agreement that totaled U.S. dollar equivalent $173.8 and $134.3 as of December 31, 2024 and 2023, respectively.

(Dollars and shares in millions, except per share amounts)

Interest Expense

The following table summarizes interest expense [1]:

	Year Ended December 31,		
	2024	2023	2022
Interest expense term loans due March 2030	$ 133.0	$ 119.5	$ —
Interest expense senior secured notes due 2030	108.9	109.7	3.0
Interest expense senior unsecured notes due 2031	48.2	48.6	1.3
Interest expense senior secured revolving credit facility due April 2029	30.3	27.7	23.4
Interest expense convertible notes due November 2024	2.5	2.4	4.0
Financing costs amortization	19.1	17.2	2.9
Capitalized interest	(6.3)	(4.6)	(0.9)
Total interest expense	$ 335.7	$ 320.5	$ 33.7

(1) Interest expense noted above relates to the debt and credit arrangements identified in this note and includes interest recognized on obligations with contractual interest rates, capitalized interest, financing costs amortization and interest accretion of debt discount.

Fair Value Disclosures

The following table summarizes the carrying values and fair values of our actively quoted debt instruments [1]:

	December 31, 2024		December 31, 2023	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Term loans due March 2030	$ 1,517.4	$ 1,589.9	$ 1,562.7	$ 1,631.0
Senior secured notes due 2030	1,425.6	1,517.9	1,420.2	1,533.0
Senior unsecured notes due 2031	492.2	546.9	490.0	555.9
Convertible notes due November 2024	—	—	257.8	604.5

(1) The debt instruments noted above are actively quoted instruments and, accordingly, their fair values were determined using Level 1 inputs.

The carrying amounts of borrowings outstanding on our senior secured revolving credit facility approximate fair value, as interest rates are variable and reflective of market rates (categorized as Level 2 of the fair value hierarchy).

(Dollars and shares in millions, except per share amounts)

NOTE 11 — Shareholders' Equity

Series B Mandatory Convertible Preferred Stock

On December 13, 2022, we completed a preferred stock offering, through which Chart issued and sold 8.050 million depositary shares, each representing a 1/20th interest in a share of Chart's 6.75% Series B Mandatory Convertible Preferred Stock, liquidation preference $1,000 per share, par value $0.01 per share (the "Mandatory Convertible Preferred Stock"). The amount issued included 1.050 million depositary shares issued pursuant to the exercise in full of the option granted to the underwriters to purchase additional depositary shares. We received gross proceeds of $402.5 from the issuance of shares less $14.4 of equity issuance costs. The proceeds were used to fund the acquisition of Howden.

Dividends. Dividends on the Mandatory Convertible Preferred Stock will be payable on a cumulative basis when, as and if declared at an annual rate of 6.75% on the liquidation value of $1,000 per share. Chart may pay declared dividends in cash or, subject to certain limitations, in shares of common stock, or in any combination of cash and shares of common stock on March 15, June 15, September 15 and December 15 of each year, commencing on March 15, 2023 and ending on, and including, December 15, 2025. We declared and paid $27.2 and $27.3 in dividends for the year ended December 31, 2024 and 2023, respectively, which are treated as a reduction to income attributable to common shareholders in the computation of earnings per share.

Mandatory Conversion. Unless earlier converted, each share of the Mandatory Convertible Preferred Stock will automatically convert on the mandatory conversion date, which is expected to be December 15, 2025, into not less than 7.0520 and not more than 8.4620 shares of common stock per share of Mandatory Convertible Preferred Stock, depending on the applicable market value and subject to certain anti-dilution adjustments. Correspondingly, the conversion rate per depositary share will be not less than 0.3526 and not more than 0.4231 shares of common stock per depositary share. The conversion rate will be determined based on a preceding 20-day volume-weighted-average-price of common stock.

The following table illustrates the conversion rate per share of the Mandatory Convertible Preferred Stock, subject to certain anti-dilution adjustments, based on the applicable market value of the common stock:

Applicable Market Value of Common Stock	Conversion Rate per Share of Mandatory Convertible Preferred Stock
Greater than $141.8037 (threshold appreciation price)	7.0520 shares of common stock
Equal to or less than $141.8037 but greater than or equal to $118.1754	Between 7.0520 and 8.4620 shares of common stock, determined by dividing $1,000 by the applicable market value
Less than $118.1754 (initial price)	8.4620 shares of common stock

The following table illustrates the conversion rate per depositary share, subject to certain anti-dilution adjustments, based on the applicable market value of the common stock:

Applicable Market Value of Common Stock	Conversion Rate per Depositary Share
Greater than $141.8037 (threshold appreciation price)	0.3526 shares of common stock
Equal to or less than $141.8037 but greater than or equal to $118.1754	Between 0.3526 and 0.4231 shares of common stock, determined by dividing $50 by the applicable market value
Less than $118.1754 (initial price)	0.4231 shares of common stock

Optional Conversion of the Holder. Other than during a fundamental change conversion period, at any time prior to December 15, 2025, a holder of the Mandatory Convertible Preferred Stock may elect to convert such holder's shares of Mandatory Convertible Preferred Stock, in whole or in part, at the Minimum Conversion Rate of 7.0520 shares of common stock per share of Mandatory Convertible Preferred Stock (equivalent to 0.3526 shares of common stock per depositary share), subject to certain anti-dilution and other adjustments. Because each depositary share represents a 1/20th fractional interest in a share of Mandatory Convertible Preferred Stock, a holder of depositary shares may convert its depositary shares only in lots of 20 depositary shares.

Fundamental Change Conversion. If a fundamental change occurs on or prior to December 15, 2025, holders of the Mandatory Convertible Preferred Stock will have the right to convert their shares of Mandatory Convertible Preferred Stock, in whole or in part, into shares of common stock at the fundamental change conversion rate during the period beginning on, and including, the effective date of such fundamental change and ending on, and including, the earlier of (a) the date that is 20 calendar days after such effective date (or, if later, the date that is 20 calendar days after holders receive notice of such fundamental change) and (b) December 15, 2025. Holders who convert shares of the Mandatory Convertible Preferred Stock during that period will also receive a make-whole dividend amount comprised of a fundamental change dividend make-whole amount, and to the extent there is any, the accumulated dividend amount. Because each depositary share represents a 1/20th fractional interest in a share of the Series B Preferred Stock, a holder of depositary shares may convert its depositary shares upon a fundamental change only in lots of 20 depositary shares.

Ranking. The Mandatory Convertible Preferred Stock, with respect to anticipated dividends and distributions upon Chart's liquidation or dissolution, or winding-up of Chart's affairs, ranks or will rank:

- senior to our common stock and each other class or series of capital stock issued after the initial issue date of the Mandatory Convertible Preferred Stock, the terms of which do not expressly provide that such capital stock ranks either senior to the Mandatory Convertible Preferred Stock or on a parity with Mandatory Convertible Preferred Stock;
- equal with any class or series of capital stock issued after the initial issue date the terms of which expressly provide that such capital stock will rank equal with the Mandatory Convertible Preferred Stock:
- junior to the Series A Preferred Stock, if issued, and each other class or series of capital stock issued after the initial issue date that is expressly made senior to the Mandatory Convertible Preferred Stock;
- junior to our existing and future indebtedness; and
- structurally subordinated to any existing and future indebtedness of our subsidiaries as well as the capital stock of our subsidiaries held by third parties.

Voting Rights. Holders of Mandatory Convertible Preferred Stock generally will not have voting rights. Whenever dividends on shares of Mandatory Convertible Preferred Stock have not been declared and paid for six or more dividend periods (including, for the avoidance of doubt, the dividend period beginning on, and including, the initial issue date and ending on, but excluding, March 15, 2023), whether or not for consecutive dividend periods, the holders of such shares of Mandatory Convertible Preferred Stock, voting together as a single class with holders of all other series of voting preferred stock of equal rank, then outstanding, will be entitled at our next annual or special meeting of stockholders to vote for the election of a total of two additional members of our board of directors, subject to certain limitations. This right will terminate if and when all accumulated and unpaid dividends have been paid in full, or declared and a sum sufficient for such payment shall have been set aside. Upon such termination, the term of office of each preferred stock director so elected will terminate at such time and the number of directors on our board of directors will automatically decrease by two, subject to the revesting of such rights in the event of each subsequent nonpayment.

Embedded Derivatives. There are no material embedded derivatives that meet the criteria for bifurcation and separate accounting pursuant to ASC 815-15, Embedded Derivatives.

NOTE 12 — Financial Instruments and Derivative Financial Instruments

Concentrations of Credit Risks: We sell our products primarily to gas producers, distributors, and end-users across energy, industrial, power, HVAC and refining applications in countries throughout the world. 60%, 59%, and 42% of sales were to customers in foreign countries in 2024, 2023, and 2022, respectively.

In 2024, 2023, and 2022, no single customer accounted for more than 10% of consolidated sales. Sales to our top ten customers accounted for 26%, 25% and 38% of consolidated sales in 2024, 2023, and 2022, respectively. Our sales to particular customers fluctuate from period to period, but our large industrial gas producer and distributor customers tend to be a consistently substantial source of revenue for us.

We are subject to concentrations of credit risk with respect to our cash and cash equivalents, restricted cash and restricted cash equivalents and forward foreign currency exchange contracts. To minimize credit risk from these financial instruments, we enter into arrangements with major banks and other quality financial institutions and invest only in high-quality instruments. We do not expect any counterparties to fail to meet their obligations.

(Dollars and shares in millions, except per share amounts)

Derivatives and Hedging

We utilize a combination of cross-currency swaps and foreign exchange collars (together the "Foreign Exchange Collar Contracts") as a net investment hedge of a portion of our investments in certain international subsidiaries that use the euro as their functional currency in order to reduce the volatility caused by changes in exchange rates. As a result of our acquisition of Howden, we are also a party to foreign currency contracts not designated as hedging instruments (the "Foreign Currency Contracts") which are used to mitigate the risk associated with cash management activities and customer forward sale agreements denominated in currencies other than the applicable local currency, and to match costs and expected revenues where production facilities have a different currency than the selling currency.

Our Foreign Currency Contracts are measured at fair value with changes in fair value recorded within other expense (income), net. We classify cash flows related to our Foreign Currency Contracts as operating activities within our consolidated statements of cash flows. Our derivative contracts are entered into with major financial institutions in order to reduce credit risk and risk of nonperformance by third parties. We believe the credit risks with respect to the counterparties, and the foreign currency risks that would not be hedged if the counterparties fail to fulfill their obligations under the contract, are not material in view of our understanding of the financial strength of the counterparties. Our derivative contracts are not exchange traded instruments and their fair value is determined using the cash flows of the contracts, discount rates to account for the passage of time, implied volatility, current foreign exchange market data and credit risk, which are all based on inputs readily available in public markets and categorized as Level 2 fair value hierarchy measurements.

The following table represents the fair value of our asset and liability derivatives:

	December 31, 2024				
	Notional Amount	Fair Value Other Current Assets	Fair Value Other Assets	Fair Value Other Current Liabilities	Fair Value Other Long-Term Liabilities
Derivatives designated as net investment hedge					
Foreign Exchange Collar Contracts [1]	$ 307.5	$ —	$ —	$ —	$ 4.4
Derivatives not designated as hedges					
Foreign Currency Contracts	$ 603.3	$ 3.2	$ 0.2	$ 9.7	$ 0.1

	December 31, 2023				
	Notional Amount	Fair Value Other Current Assets	Fair Value Other Assets	Fair Value Other Current Liabilities	Fair Value Other Long-Term Liabilities
Derivatives designated as net investment hedge					
Foreign Exchange Collar Contracts [1]	$ 320.8	$ —	$ —	$ —	$ 6.0
Derivatives not designated as hedges					
Foreign Currency Contracts	$ 393.5	$ 1.8	$ 0.1	$ 2.7	$ —

(1) Represents foreign exchange swaps and foreign exchange options.

The effect of derivative instruments, both designated and not designated in hedging relationships, on the consolidated statements of income and consolidated statements of comprehensive income (loss) was not material for the years ended December 31, 2024, December 31, 2023 and December 31, 2022.

(Dollars and shares in millions, except per share amounts)

NOTE 13 — Business Combinations

Howden Acquisition

On March 17, 2023 we completed the Howden Acquisition pursuant to the previously disclosed Equity Purchase Agreement dated as of November 9, 2022. The acquisition purchase price was $4,387.4. We financed the purchase price for the Howden Acquisition with proceeds from borrowings under our SSRCF, the term loans due March 2030, common and preferred stock issuance and a private offering of Secured Notes and Unsecured Notes. See Note 10, "Debt and Credit Arrangements," for more information.

The following table shows the purchase price in accordance with ASC 805:

Description		
Cash consideration to seller	$	2,788.3
Howden's debt settled at close		1,529.0
Settlement of seller transaction costs		67.2
Funds held in escrow		20.4
Working capital adjustment		(17.5)
Total ASC 805 purchase price	$	4,387.4

Howden is a leading global provider of mission critical air and gas handling products providing service and support to customers around the world in highly diversified end markets and geographies. The combination of Chart and Howden is complementary and furthers our global leadership position in highly engineered process technologies and products serving the Nexus of Clean™ – clean power, clean water, clean food and clean industrials.

We estimated the fair value of acquired developed technology and trade names using the relief from royalty method. The fair values of acquired customer backlog and customer relationships were estimated using the multi-period excess earnings method. Under both the relief from royalty and multi-period excess earnings methods, the fair value models incorporated estimates of future cash flows, estimates of allocations of certain assets and cash flows, estimates of future growth rates, and management's judgment regarding the applicable discount rates to use to discount such estimates of cash flows.

The excess of the purchase price over the estimated fair values is assigned to goodwill. The estimated goodwill was established due to expected cost synergies, anticipated growth of new customers, and expansion of equipment portfolio and process technology offerings. Goodwill recorded for the Howden Acquisition is not expected to be deductible for tax purposes.

The estimated fair values of the assets acquired and liabilities assumed disclosed in this note are inclusive of businesses identified to be sold as of the acquisition date. On August 18, 2023, we completed the sale of our Roots business, which we acquired as part of the Howden Acquisition. We have categorized the assets and liabilities of these discontinued operations on separate lines in the table below. Refer to Note 3, "Discontinued Operations and Other Businesses Sold" for further information.

The purchase price allocation reported at December 31, 2023 was preliminary and was based on provisional fair values. During the first quarter 2024, we received and analyzed new information about certain assets and liabilities, as of the March 17, 2023 acquisition date and subsequently decreased current assets by $10.4, increased current liabilities by $40.1, and decreased long-term deferred tax liabilities by $8.2 for post-closing adjustments, based on this information. During the first quarter of 2024, we finalized the Howden purchase price allocation.

(Dollars and shares in millions, except per share amounts)

The following table summarizes the fair values of the assets acquired and liabilities assumed in the Howden Acquisition as of the acquisition date:

	Fair Value
Net assets acquired:	
Cash and cash equivalents	$ 62.5
Restricted cash	2.6
Accounts receivable	422.7
Inventories	256.8
Unbilled contract revenue	167.8
Other current assets	153.3
Assets held for sale	225.7
Property, plant and equipment	325.1
Identifiable intangible assets	2,434.5
Other assets	129.3
Accounts payable	(385.7)
Customer advances and billings in excess of contract revenue	(233.2)
Current portion of long-term debt	(1.4)
Other current liabilities	(344.4)
Liabilities held for sale	(43.9)
Long-term deferred tax liabilities	(663.6)
Other long-term liabilities	(102.3)
Total identifiable net assets assumed	2,405.8
Noncontrolling interest [1]	(146.3)
Goodwill [2]	2,127.9
Net assets acquired	$ 4,387.4
Assets acquired net of cash, cash equivalents and restricted cash	$ 4,322.3

(1) As part of the Howden Acquisition, we acquired 82% of Howden Hua Engineering Co., Ltd, an entity based in China. The noncontrolling interest was valued at $146.0.

(2) Includes $102.2 and $49.7 allocated to the Roots and American Fan divestitures, respectively.

The following table summarizes information regarding identifiable intangible assets acquired in the Howden Acquisition:

	Estimated Useful Lives	Fair Value
Finite-lived intangible assets acquired:		
Customer relationships	18 years	$ 1,533.0
Backlog	3 years	135.0
Technology	5 to 14 years	296.0
Total finite-lived intangible assets acquired		$ 1,964.0
Indefinite-lived intangible assets acquired:		
Trade names		470.5
Total intangible assets acquired		$ 2,434.5

(Dollars and shares in millions, except per share amounts)

As part of the Howden Acquisition, we acquired defined benefit pension plans, which are predominately in Germany. As a result, we assumed pension assets of $38.7 and pension liabilities of $41.1, a net $2.4 liability.

As defined in Note 2, “Significant Accounting Policies” of our Annual Report on Form 10-K for the year ended December 31, 2023, we allocated the acquisition consideration to tangible and identifiable intangible assets acquired and liabilities assumed based on their fair values as of the acquisition date. The fair value of the acquired tangible and identifiable intangible assets was determined based on inputs that are unobservable and significant to the overall fair value measurement. The fair value is based on estimates and assumptions made by management at the time of the acquisition. As such, the acquisitions are classified as Level 3 fair value hierarchy measurements and disclosures.

Unaudited Supplemental Pro Forma Information

The following unaudited pro forma combined financial information for the years ended December 31, 2023 and 2022 gives effect to the Howden Acquisition and the Roots and American Fan divestitures, as if both occurred on January 1, 2022. The unaudited pro forma information is not necessarily indicative of the results of operations that actually would have occurred under the ownership and management of the Company. In addition, the unaudited pro forma information is not intended to be a projection of future results and does not reflect any operating efficiencies or cost savings that might be achievable.

The following adjustments are reflected in the unaudited pro forma financial table below:

- the effect of increased interest expense related to the repayment of the Howden term loans, senior notes and revolving credit facility net of the additional borrowing on the Chart senior secured revolving credit facility and senior secured and unsecured notes,
- amortization of acquired intangible assets,
- an adjustment to reflect the change in the estimated income tax rate for federal and state purposes,
- nonrecurring acquisition-related expenses incurred by Howden prior to the close of and directly attributable to the Howden Acquisition were adjusted out of the pro forma net loss attributable to Chart Industries, Inc. from continuing operations for the periods presented, and
- nonrecurring acquisition-related expenses incurred by Chart and directly related to the Howden Acquisition were adjusted out of the pro forma net loss attributable to Chart Industries, Inc. from continuing operations for the periods presented.

	Year Ended December 31, 2023	Year Ended December 31, 2022
Pro forma sales from continuing operations	$ 3,657.7	$ 3,314.6
Pro forma net loss attributable to Chart Industries, Inc. from continuing operations	6.1	164.0

NOTE 14 — Accumulated Other Comprehensive (Loss) Income

Accumulated Other Comprehensive (Loss) Income

The components of accumulated other comprehensive (loss) income are as follows:

	December 31, 2024		
	Foreign currency translation adjustments (1)	Pension liability adjustments, net of taxes (2)	Accumulated other comprehensive (loss) income
Beginning balance	$ 13.2	$ (2.4)	$ 10.8
Other comprehensive (loss) income	(166.8)	0.9	(165.9)
Net current-period other comprehensive loss, net of taxes	(166.8)	0.9	(165.9)
Ending balance	$ (153.6)	$ (1.5)	$ (155.1)

(Dollars and shares in millions, except per share amounts)

	December 31, 2023		
	Foreign currency translation adjustments (1)	Pension liability adjustments, net of taxes	Accumulated other comprehensive (loss) income
Beginning balance	$ (50.5)	$ (7.5)	$ (58.0)
Other comprehensive income	63.7	4.2	67.9
Amounts reclassified from accumulated other comprehensive (loss) income, net of income taxes	—	0.9	0.9
Net current-period other comprehensive income, net of taxes	63.7	5.1	68.8
Ending balance	$ 13.2	$ (2.4)	$ 10.8

(1) Foreign currency translation adjustments includes translation adjustments and net investment hedge, net of taxes. See Note 12, "Financial Instruments and Derivative Financial Instruments," for further information related to the net investment hedge.

(2) We recognized a $1.1 loss related to the partial settlement of a defined benefit plan. Refer to Note 17, "Employee Benefit Plans" for further information.

(Dollars and shares in millions, except per share amounts)

NOTE 15 — Earnings Per Share

The following table presents calculations of net income per share of common stock:

	Year Ended December 31, 2024	2023	2022
Amounts attributable to Chart common stockholders			
Income from continuing operations	$ 222.0	$ 47.9	$ 81.6
Less: Mandatory convertible preferred stock dividend requirement	27.2	27.3	1.4
Income from continuing operations attributable to Chart	194.8	20.6	80.2
Loss from discontinued operations, net of tax	(3.5)	(0.6)	(57.6)
Net income attributable to Chart common stockholders	$ 191.3	$ 20.0	$ 22.6
Earnings per common share – basic:			
Income from continuing operations	$ 4.62	$ 0.49	$ 2.21
Loss from discontinued operations	(0.08)	(0.01)	(1.59)
Net income attributable to Chart Industries, Inc.	$ 4.54	$ 0.48	$ 0.62
Earnings per common share – diluted:			
Income from continuing operations	$ 4.17	$ 0.44	$ 1.92
Loss from discontinued operations	(0.07)	(0.01)	(1.38)
Net income attributable to Chart Industries, Inc.	$ 4.10	$ 0.43	$ 0.54
Weighted average number of common shares outstanding – basic	42.15	41.97	36.25
Incremental shares issuable upon assumed conversion and exercise of share-based awards	0.21	0.20	0.26
Incremental shares issuable due to dilutive effect of the convertible notes	2.21	2.53	2.81
Incremental shares issuable due to dilutive effect of warrants	2.10	2.12	2.47
Incremental shares issuable due to dilutive effect of the underwriters common shares option	—	—	0.01
Weighted average number of common shares outstanding – diluted	46.67	46.82	41.80

Diluted earnings per share does not consider the following cumulative preferred stock dividends and potential common shares as the effect would be anti-dilutive:

	Year Ended December 31, 2024	2023	2022
Numerator			
Mandatory convertible preferred stock dividend requirement (1)	$ 27.2	$ 27.3	$ 1.4
Denominator			
Anti-dilutive shares, Share-based awards	0.12	0.09	0.06
Anti-dilutive shares, Mandatory convertible preferred stock (1)	2.94	3.03	0.17
Total anti-dilutive securities	3.06	3.12	0.23

(1) We calculate the basic and diluted earnings per share based on net income, which approximates income available to common shareholders for each period. Earnings per share is calculated using the two-class method, which is an earnings allocation formula that determines the earnings per share for common stock and any participating securities according to dividends declared (whether paid or unpaid) and participation rights in undistributed earnings. The Series B Mandatory Convertible Preferred Stock and the 2024 Convertible Notes are participating securities. Undistributed earnings are not allocated to the participating securities because the participation features are discretionary. Net losses are not allocated to

(Dollars and shares in millions, except per share amounts)

the Series B Mandatory Convertible Preferred Stock, as it does not have a contractual obligation to share in the losses of Chart. Basic net income per share is computed by dividing net income available to common shareholders by the weighted average number of common shares outstanding for the period. Diluted net income per common share is computed by dividing net income available to common shareholders by the sum of the weighted average number of common shares outstanding and any dilutive non-participating securities for the period.

NOTE 16 — Income Taxes

Income from Continuing Operations Before Income Taxes

Income from continuing operations before income taxes consists of the following:

	For the Year Ended December 31,		
	2024	2023	2022
United States	$ 75.5	$ (100.9)	$ 31.1
Foreign	243.0	158.9	67.8
Income from continuing operations before income taxes	$ 318.5	$ 58.0	$ 98.9

Provision

Significant components of income tax expense (benefit), net are as follows:

	For the Year Ended December 31,		
	2024	2023	2022
Current:			
Federal	$ 27.4	$ (15.5)	$ (1.3)
State and local	7.6	6.6	3.5
Foreign	69.7	91.2	15.4
Total current	104.7	82.3	17.6
Deferred:			
Federal	(21.4)	1.5	(5.6)
State and local	0.7	(1.8)	1.9
Foreign	(5.4)	(79.0)	2.0
Total deferred	(26.1)	(79.3)	(1.7)
Total income tax expense, net	$ 78.6	$ 3.0	$ 15.9

See Note 3, “Discontinued Operations and Other Businesses Sold” for the income (loss) from discontinued operations and related income taxes.

(Dollars and shares in millions, except per share amounts)

Effective Tax Rate Reconciliation

The reconciliation of income taxes computed at the U.S. federal statutory tax rate to income tax expense is as follows:

	Year Ended December 31,		
	2024	2023	2022
Income tax expense at U.S. statutory rate	$ 66.8	$ 12.2	$ 20.8
State income taxes, net of federal tax benefit	6.8	3.1	1.5
Foreign withholding taxes	2.4	6.3	0.2
U.S. taxation of international operations	(6.1)	18.7	1.4
Effective tax rate differential of earnings outside of United States	10.7	2.8	1.7
Change in valuation allowance	3.0	(2.0)	(11.6)
Research & experimentation	(2.2)	(2.0)	(2.9)
Provision to return	(8.4)	0.8	5.0
Non-deductible items	(0.8)	0.1	0.4
Change in uncertain tax positions	3.7	2.0	(0.3)
Share-based compensation	2.1	0.1	(1.1)
Capital loss	—	(40.5)	—
Unremitted earnings not permanently reinvested	0.5	0.9	—
Other items	0.1	0.5	0.8
Income tax expense	$ 78.6	$ 3.0	$ 15.9

We reclassified certain line items of the effective tax rate reconciliation for year ended December 31, 2022 and December 31, 2023 to correspond with the year ended December 31, 2024.

(Dollars and shares in millions, except per share amounts)

Deferred Taxes

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. Significant components of our deferred tax assets and liabilities are as follows:

	December 31,	
	2024	2023
Deferred tax assets ("DTA"):		
Accruals and reserves	$ 13.4	$ 48.7
Inventory	166.8	127.0
R&D Amortization	22.3	18.1
Interest limitation carryover	172.3	126.8
Net operating loss carryforwards	35.5	40.2
Property, plant and equipment – net DTA	6.8	4.4
Other – net DTA	11.5	9.6
Total deferred tax assets before valuation allowance	428.6	374.8
Valuation allowances	(98.6)	(90.3)
Total deferred tax assets, net of valuation allowances	$ 330.0	$ 284.5
Deferred tax liabilities ("DTL"):		
Property, plant and equipment – net DTL	$ 54.5	$ 58.6
Goodwill and intangible assets	587.4	629.0
Pensions	6.2	6.4
Unremitted earnings (APB23)	20.2	19.7
Other – net DTL	9.3	2.9
Deferred revenue	167.4	123.5
Total deferred tax liabilities	$ 845.0	$ 840.1
Net deferred tax liabilities	$ 515.0	$ 555.6
The net deferred tax liability is classified as follows:		
Other assets	$ (29.9)	$ (12.6)
Long-term deferred tax liabilities	544.9	568.2
Net deferred tax liabilities	$ 515.0	$ 555.6

We reclassified certain line items of the deferred inventory for year ended December 31, 2023 to correspond with the year ended December 31, 2024.

We evaluate the recoverability of our deferred tax assets on a jurisdictional basis by considering whether deferred tax assets will be realized on a more likely than not basis. To the extent a portion or all of the applicable deferred tax assets do not meet the more likely than not threshold, a valuation allowance is recorded. As of December 31, 2024, we have valuation allowances totaling $98.6 consisting primarily of our operations in the United Kingdom, France, and Belgium.

We have U.S. state net operating loss carryforwards of $84.3 that may be carried forward indefinitely. As of December 31, 2024, we had $122.6 foreign net operating loss carryforwards primarily in Belgium, France, and India subject to local tax limitations. The foreign net operating losses can be carried forward indefinitely, except in applicable jurisdictions that make up less than 11% of available net operating losses. We have tax credit carryforwards of $4.0.

Other Tax Information

We consider the undistributed earnings of our non-US subsidiaries as of December 31, 2024, to be partially reinvested. We are not permanently reinvested on $333.0 of the undistributed earnings of our foreign subsidiaries. The remaining earnings continue to be indefinitely reinvested outside the United States. We have assessed a total deferred tax liability of $20.2 as of

(Dollars and shares in millions, except per share amounts)

December 31, 2024 on such earnings that have not been indefinitely reinvested. This is an increase of $0.5 as compared to the deferred tax liability as of December 31, 2023. We have made no provision for U.S. income taxes or additional non-U.S. taxes on certain undistributed earnings of non-U.S. subsidiaries. These earnings could become subject to additional tax if we were to dividend those earnings or sell our interest in the non-U.S. subsidiary. We cannot practically determine the amount of additional taxes that might be payable on those earnings.

The Organisation for Economic Co-operation and Development (OECD) has a framework to implement a global minimum corporate tax of 15% for companies with global revenues and profits above certain thresholds (referred to as Pillar 2), with certain aspects of Pillar 2 effective January 1, 2024, and other aspects effective January 1, 2025. While it is uncertain whether the United States will enact legislation to adopt Pillar 2, certain countries in which we operate have adopted legislation, and other countries are in the process of introducing legislation to implement Pillar 2. We do not expect Pillar 2 to have a material impact on our effective tax rate or our consolidated results of operation, financial position, and cash flows.

Cash paid for income taxes during the years ended December 31, 2024, 2023, and 2022 was $92.7, $49.7, and $27.0, respectively.

Unrecognized Income Tax Benefits

We record a liability for unrecognized income tax benefits for the amount of benefit included in our previously filed income tax returns and in our financial results expected to be included in income tax returns to be filed for periods through the date of our Consolidated financial statements for income tax positions for which it is not more likely than not to be sustained upon examination by the respective tax authority.

The reconciliation of beginning to ending gross unrecognized tax benefits is as follows:

	Year Ended December 31,		
	2024	2023	2022
Unrecognized tax benefits at beginning of the year	$ 37.0	$ 0.7	$ 1.7
Additions for tax positions acquired during the current period	—	34.4	—
Additions for tax positions taken during the prior period	14.1	3.7	—
Reductions for tax positions taken during the current period	(0.1)	—	—
Reductions relating to settlements with taxing authorities	(0.6)	(1.6)	(0.3)
Lapse of statutes of limitation	(0.1)	(0.2)	(0.7)
Unrecognized tax benefits at end of the year	$ 50.3	$ 37.0	$ 0.7

We are routinely examined by tax authorities around the world. Tax examinations remain in process in multiple countries including but not limited to Denmark, France, Germany and India. We file numerous group and separate returns in U.S. federal and state jurisdictions as well as international jurisdictions. We are subject to income taxes in the U.S federal jurisdiction and various state and foreign jurisdictions. In the United States, tax years dating back to 2020 remain subject to examination. With some exceptions, other major tax jurisdictions generally are not subject to examinations for years beginning before 2009.

Included in the balance of unrecognized tax benefits at December 31, 2024 and 2023 was $36.5 and $35.8, respectively of income tax expenses, which, if ultimately recognized, would impact our annual effective tax rate.

We recognize interest accrued related to unrecognized tax benefits and penalties as income tax expense. We accrued approximately $4.0 and $0.9 of interest and penalties at December 31, 2024 and 2023, respectively We recognized a liability related to interest and penalties on unrecognized tax benefits of $11.0 as of December 31, 2024, primarily related to tax positions acquired in the Howden Acquisition. The amount of interest and penalties related to years prior to 2023 is immaterial. Due to the expiration of various statutes of limitation and anticipated payments, it is reasonably possible our unrecognized tax benefits at December 31, 2024 may decrease within the next twelve months by $0.1.

(Dollars and shares in millions, except per share amounts)

NOTE 17 — Employee Benefit Plans

Defined Benefit Plans

We have a defined benefit pension plan that covers certain U.S. hourly and salary employees (the "Chart Plan") and is currently subject to termination. The Chart Plan provides benefits based primarily on the participants' years of service and compensation. In May 2024, our Board of Directors approved a resolution to terminate the Chart Plan and notified plan participants of the termination and the distribution alternatives. During the fourth quarter of 2024, distributions were made to settle the obligation with plan participants electing a lump sum distribution option. As a result of this partial settlement, we recognized a $1.1 loss, which is classified as other expense (income), net in the consolidated statement of income for the year ended December 31, 2024. We expect to settle the remainder of the obligations in the first half of 2025. We expect this will result in a non-cash settlement gain or loss at plan termination which will include any unrecognized losses within accumulated other comprehensive (loss) income associated with the Chart Plan. While we cannot estimate this future non-cash settlement gain or loss, the gross accumulated other comprehensive loss related to the Chart Plan was $5.6 as of December 31, 2024.

Following the Howden Acquisition, we assumed responsibility for ten additional defined benefit plans outside of the United States, which are predominantly in Germany (the "International Plans"). Upon acquisition, we recognized a net liability on our consolidated balance sheet.

The components of net periodic pension cost (income) are as follows:

	U.S. Plan			International Plans	
	Year Ended December 31,			Year Ended December 31,	
	2024	2023	2022	2024	2023
Interest cost	$ 2.2	$ 2.4	$ 1.7	$ 1.3	$ 1.2
Service cost	—	—	—	0.9	0.7
Expected return on plan assets	(3.0)	(3.3)	(4.3)	(1.8)	(1.3)
Amortization of net loss	—	0.9	0.5	—	—
Net settlement loss	1.1	—	—	—	—
Total net periodic pension cost (income)	$ 0.3	$ —	$ (2.1)	$ 0.4	$ 0.6

The other changes in plan assets and projected benefit obligations recognized in other comprehensive (loss) income, on a pre-tax basis, are as follows:

	U.S. Plan			International Plans	
	Year Ended December 31,			Year Ended December 31,	
	2024	2023	2022	2024	2023
Net actuarial loss (gain)	$ 3.1	$ (5.9)	$ 1.7	$ (2.4)	$ 0.1
Net amortization	—	(0.9)	(0.5)	—	$ —
Effect of foreign exchange rates	—	—	—	—	4.7
Net settlement loss	(1.1)	—	—	—	—
Total recognized in other comprehensive (loss) income	$ 2.0	$ (6.8)	$ 1.2	$ (2.4)	$ 4.8

(Dollars and shares in millions, except per share amounts)

The changes in the projected benefit obligation and plan assets, the funded status of the plans and the amounts recognized in the consolidated balance sheets are as follows:

	U.S. Plan		International Plans	
	December 31,		December 31,	
	2024	2023	2024	2023
Change in projected benefit obligation:				
Projected benefit obligation at beginning of year	$ 48.1	$ 50.0	$ 43.0	$ —
Acquisition of Howden [(1)]	—	—	—	41.1
Interest cost	2.2	2.4	1.3	1.2
Service cost	—	—	0.9	0.7
Benefits paid	(3.5)	(3.1)	(2.1)	(2.0)
Actuarial losses (gains)	0.4	(1.2)	(1.2)	0.4
Settlements	(7.7)	—	(0.2)	—
Foreign exchange rate impact	—	—	(2.5)	1.6
Projected benefit obligation at year end	39.5	48.1	39.2	43.0
Accumulated benefit obligation at year end	39.5	48.1	37.5	41.2
Change in plan assets:				
Fair value of plan assets at beginning of year	54.0	49.1	41.8	—
Acquisition of Howden [(1)]	—	—	—	38.7
Actual return	1.0	8.0	3.3	1.6
Employer contributions	—	—	2.2	1.9
Benefits paid	(3.5)	(3.1)	(2.1)	(2.0)
Expenses paid	(0.7)	—	—	—
Settlements	(7.7)	—	(0.2)	—
Foreign exchange rate impact	—	—	(2.6)	1.6
Fair value of plan assets at year end	43.1	54.0	42.4	41.8
Funded status (accrued pension asset (liability))	$ 3.6	$ 5.9	$ 3.2	$ (1.2)
Amounts recognized on the consolidated balance sheet at December 31:				
Non-current assets	$ 3.7	$ 5.9	$ 10.2	$ 5.8
Current liabilities	—	—	(0.4)	(0.3)
Non-current liabilities	—	—	(6.6)	(6.7)
Recognized accrued pension asset (liability)	$ 3.7	$ 5.9	$ 3.2	$ (1.2)
Unrecognized actuarial loss (gain) recognized in accumulated other comprehensive loss	$ 5.6	$ 3.5	$ (2.3)	$ 0.1

(1) The 2023 changes in the projected benefit obligation and plan assets reflect the effect of the Howden Acquisition.

Non-current assets related to defined benefit plans are classified within other assets in our consolidated balance sheets. Current liabilities and non-current liabilities related to defined benefit plans are classified within other current liabilities and other long-term liabilities, respectively, in our consolidated balance sheets.

The estimated net periodic pension income for the both the Chart Plan and International Plans that will be amortized from accumulated other comprehensive loss over the next fiscal year is not material.

(Dollars and shares in millions, except per share amounts)

International Plans with accumulated benefit obligations in excess of plan assets consist of the following:

	International Plans	
	December 31,	
	2024	2023
Projected benefit obligation	$ 6.7	$ 6.7
Accumulated benefit obligation	5.7	5.7
Fair value of plan assets	0.3	0.3

International Plans with projected benefit obligations in excess of plan assets consist of the following:

	International Plans	
	December 31,	
	2024	2023
Projected benefit obligation	$ 10.2	$ 10.2
Accumulated benefit obligation	8.5	8.4
Fair value of plan assets	3.2	3.4

The actuarial assumptions used in determining pension plan information are as follows:

	U.S. Plan			International Plans	
	Year Ended December 31,			Year Ended December 31,	
	2024	2023	2022	2024	2023
Assumptions used to determine the projected obligation at year end:					
Discount rate	5.5 %	5.0 %	4.9 %	3.4 %	3.4 %
Rate of increase in compensation levels for active pension plans	— %	— %	— %	3.9 %	4.1 %
Assumptions used to determine net periodic benefit cost:					
Discount rate	5.0 %	4.9 %	2.7 %	3.4 %	3.4 %
Expected long-term weighted-average rate of return on plan assets	6.0 %	7.0 %	7.0 %	4.2 %	4.5 %
Rate of increase in compensation levels for active pension plans	— %	— %	— %	3.9 %	4.1 %

U.S. Plan

The discount rate of the Chart Plan reflects the current rate at which the pension liabilities could be effectively settled at year end. In estimating this rate, we look to rates of return on high quality, fixed-income investments that receive one of the two highest ratings given by a recognized rating agency and the expected timing of benefit payments under the plan.

The expected return assumptions were developed using an averaging formula based upon the plans' investment guidelines, mix of asset classes, historical returns of equities and bonds, and expected future returns. We employ a total return investment approach whereby a mix of equities and fixed income investments are used to maximize the long-term return of plan assets for a prudent level of risk. Risk tolerance is established through careful consideration of short and long-term plan liabilities, plan funded status and corporate financial condition. The investment portfolio contains a diversified blend of equity and fixed-income investments. Furthermore, equity investments are diversified across U.S. and non-U.S. stocks, as well as growth, value, and small and large capitalizations. Investment risk is measured and monitored on an ongoing basis through quarterly investment portfolio reviews, annual liability measurements, and periodic asset/liability studies.

International Plans

In determining discount rates for the International Plans, we utilize the single discount rate equivalent to discounting the expected future cash flows from each plan using the yields at each duration from a published yield curve as of the measurement date. The expected long-term rate of return on plan assets was based on our investment policy target allocation of the asset portfolio between various asset classes and the expected real returns of each asset class over various periods of time that are consistent with the long-term nature of the underlying obligations of these plans.

(Dollars and shares in millions, except per share amounts)

Our primary investment objective for the defined benefit pension plan assets is to provide a source of retirement income for the plans' participants and beneficiaries. The Chart Plan's target allocations by asset category and fair values of the plan assets by asset class at December 31 are as follows:

		U.S. Plan					
		Fair Value					
		Total		Level 2		Level 3	
Plan Assets:	**Target Allocations by Asset Category**	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Equity funds	—%	$ —	$ 16.5	$ —	$ 16.5	$ —	$ —
Fixed income funds	71%	43.1	34.0	43.1	34.0	—	—
Other investments	29%	—	3.5	—	—	—	3.5
Total		$ 43.1	$ 54.0	$ 43.1	$ 50.5	$ —	$ 3.5

The plan assets are primarily invested in pooled separate funds. The fair values of equity securities and fixed income securities held in pooled separate funds are based on net asset value of the units of the funds as determined by the fund manager. These funds are similar in nature to retail mutual funds, but are typically more efficient for institutional investors. The fair value of pooled funds is determined by the value of the underlying assets held by the fund and the units outstanding. The value of the pooled funds is not directly observable, but is based on observable inputs. As such, these plan assets are valued using Level 2 inputs. Certain plan assets in the other investments asset category are invested in a general investment account where the fair value is derived from the liquidation value based on an actuarial formula as defined under terms of the investment contract. These plan assets were valued using unobservable inputs and, accordingly, the valuation was performed using Level 3 inputs.

The following table represents changes in the fair value of plan assets categorized as Level 3 from the preceding table:

	U.S. Plan
Balance at December 31, 2022	$ 1.1
Purchases, sales and settlements, net	(2.9)
Transfers, net	5.3
Balance at December 31, 2023	3.5
Purchases, sales and settlements, net	(3.5)
Transfers, net	—
Balance at December 31, 2024	$ —

The International Plans' target allocations by asset category and fair values of the plan assets by asset class at December 31 are as follows:

		International Plans					
		Fair Value					
		Total		Level 1		Level 2	
Plan Assets:	**Target Allocations by Asset Category**	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Cash and cash equivalents	0%	$ —	$ 0.2	$ —	$ 0.2	$ —	$ —
Insurance contracts	7%	2.9	2.9	—	—	2.9	2.9
Investments funds	93%	39.5	38.7	—	—	39.5	38.7
Total		$ 42.4	$ 41.8	$ —	$ 0.2	$ 42.4	$ 41.6

The assets are invested with the goal of preserving principal while providing a reasonable real rate of return over the long term. Diversification of assets is achieved through strategic allocations to various asset classes in line with the investment guidelines of the plans. Actual allocations to each asset class vary due to periodic investment strategy changes, market value fluctuations, the length of time it takes to fully implement investment allocation positions, and the timing of benefit payments and contributions. The asset allocation is monitored and rebalanced as required, as frequently as on a quarterly basis in some instances. The plan assets are primarily invested in pooled separate funds. The fair values of equity securities and fixed income securities held in pooled separate funds are based on net asset value of the units of the funds as determined by the fund manager. These funds are similar in nature to retail mutual funds, but are typically more efficient for institutional investors. The fair value of pooled funds is determined by the value of the underlying assets held by the fund and the units outstanding. The value of the pooled funds is not directly observable, but is based on observable inputs. As such, these plan assets are valued using Level 2 inputs.

(Dollars and shares in millions, except per share amounts)

Our funding policy is to contribute at least the minimum funding amounts required by law. Based upon current actuarial estimates, we do not expect to contribute to our Chart Plan in the next five years. Expected contributions to our International Plans for the year ended December 31, 2024, related to plans as of December 31, 2023, are $2.4. The following benefit payments are expected to be paid by the plan in each of the next five years and in the aggregate for the subsequent five years:

	U.S. Plan	International Plans
2025	$ 3.5	$ 2.3
2026	3.5	2.5
2027	3.5	2.2
2028	3.4	2.5
2029	3.4	2.6
In aggregate during five years thereafter	15.6	11.4

Defined Contribution Plans

The Company also sponsors defined contribution plans at various locations globally. Company contributions to the plans are based on employee contributions and include a Company match and discretionary contributions. Expenses under the plan totaled $22.1, $18.2, and $6.8 for the years ended December 31, 2024, 2023, and 2022, respectively.

NOTE 18 — Share-based Compensation

Under the 2024 Omnibus Equity Plan (the “2024 Omnibus Equity Plan”) officers and employees (including our principal executive officer, principal financial officer and other “named executive officers”) are eligible to be granted stock options, stock appreciation rights (“SARs”), restricted stock, restricted stock units (“RSUs”), performance shares and common shares. The maximum number of shares available for issuance is 1.60, which could be treasury shares or unissued shares, with a limit of 0.20 shares available for incentive stock option grants. As of December 31, 2024, 0.01 shares of restricted stock and RSUs were outstanding under the 2024 Omnibus Equity Plan.

Under the 2017 Omnibus Equity Plan (the “2017 Omnibus Equity Plan”) officers and employees (including our principal executive officer, principal financial officer and other “named executive officers”) are eligible to be granted stock options, stock appreciation rights (“SARs”), restricted stock, restricted stock units (“RSUs”), performance shares and common shares. The maximum number of shares available for issuance is 1.70, which may be treasury shares or unissued shares. As of December 31, 2024, 0.30 stock options, 0.12 shares of restricted stock and RSUs, and 0.09 performance units were outstanding under the 2017 Omnibus Equity Plan.

Under the Amended and Restated 2009 Omnibus Equity Plan (“2009 Omnibus Equity Plan”) which was originally approved by our shareholders in May 2009 and re-approved by shareholders in May 2012 as amended and restated, we could grant stock options, SARs, RSUs, restricted stock, performance shares, leveraged restricted shares, and common shares to employees and directors. The maximum number of shares available for issuance is 3.35, which could be treasury shares or unissued shares. As of December 31, 2024, 0.02 stock options were outstanding under the 2009 Omnibus Equity Plan.

We recognized share-based compensation expense of $18.9, $12.6, and $10.6 for the years ended December 31, 2024, 2023, and 2022, respectively. This expense is included in selling, general and administrative expenses in the consolidated statements of income. The tax benefit related to share-based compensation during the years ended December 31, 2024, 2023, and 2022 was $1.7, $1.7 and $1.4, respectively. As of December 31, 2024, total share-based compensation expense of $18.7 is expected to be recognized over the remaining weighted-average period of approximately 1.9 years.

(Dollars and shares in millions, except per share amounts)

Stock Options

We use a Black-Scholes option pricing model to estimate the fair value of stock options. The expected volatility is based on historical information. The risk-free rate is based on the U.S. Treasury yield in effect at the time of the grant. Weighted-average grant-date fair values of stock options and the assumptions used in estimating the fair values are as follows:

	Year Ended December 31,		
	2024	2023	2022
Weighted-average grant-date fair value per share	$ 69.09	$ 57.15	$ 67.58
Expected term (years)	4.7	4.7	4.7
Risk-free interest rate	3.95 %	3.98 %	1.32 %
Expected volatility	56.61 %	54.66 %	51.24 %

Stock options generally have a four-year graded vesting period, an exercise price equal to the fair market value of a share of common stock on the date of grant, and a contractual term of 10 years. The following table summarizes our stock option activity from continuing operations:

	December 31, 2024			
	Number of Shares	Weighted-average Exercise Price	Aggregate Intrinsic Value	Weighted-average Remaining Contractual Term
Outstanding at beginning of year	0.29	$ 87.09		
Granted	0.07	135.22		
Exercised	(0.02)	83.19		
Forfeited / Cancelled	(0.01)	98.02		
Outstanding at end of year	0.33	$ 97.00	$ 30.6	5.85 years
Vested and expected to vest at end of year	0.32	$ 96.10	$ 30.1	5.78 years
Exercisable at end of year	0.21	$ 77.43	$ 23.3	4.47 years

As of December 31, 2024, total unrecognized compensation cost related to stock options expected to be recognized over the weighted-average period of approximately 2.4 years is $3.4.

The total intrinsic value of options exercised during the years ended December 31, 2024, 2023, and 2022 was $1.7, $2.3, and $3.5, respectively. The total fair value of stock options vested during the years ended December 31, 2024, 2023, and 2022 was $2.3, $2.1, and $2.3, respectively.

Restricted Stock and RSUs

Restricted stock and RSUs generally vest ratably over a three-year period and are valued based on our market price on the date of grant. The following table summarizes our unvested restricted stock and RSUs activity from continuing operations:

	December 31, 2024	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested at beginning of year	0.11	$ 137.70
Granted	0.09	138.29
Forfeited	(0.01)	131.16
Vested	(0.06)	135.25
Unvested at end of year	0.13	$ 139.41

As of December 31, 2024, total unrecognized compensation cost related to unvested restricted stock and RSUs expected to be recognized over the weighted-average period of approximately 1.8 years is $9.2.

(Dollars and shares in millions, except per share amounts)

The weighted-average grant-date fair value of restricted stock and RSUs granted during the years ended December 31, 2024, 2023, and 2022 was $138.29, $132.28, and $155.02, respectively. The total fair value of restricted stock and RSUs that vested during the years ended December 31, 2024, 2023, and 2022 was $8.2, $7.7, and $10.0, respectively.

Performance Units

Performance units are earned over a three-year period. Based on the attainment of pre-determined performance and market condition targets as determined by the Compensation Committee of the Board of Directors, performance units earned may be in the range of between 0% and 200%. The following table, which is stated at a 100% earned percentage, summarizes our performance units activity from continuing operations:

	December 31, 2024	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested at beginning of year	0.07	$ 134.41
Granted	0.04	146.77
Vested	(0.02)	128.27
Forfeited	—	127.44
Unvested at end of year	0.09	$ 140.51

As of December 31, 2024, total unrecognized compensation cost related to performance units expected to be recognized over a weighted-average period of approximately 1.6 years is $6.1.

The weighted-average grant-date fair value of performance units granted during the years ended December 31 2024, 2023, and 2022 was $146.77, $126.86, and $153.81, respectively. The total fair value of performance units that vested during the years ended December 31, 2024, 2023, and 2022 was $3.0, $3.4, and $2.6, respectively.

NOTE 19 — Leases

Lessee Accounting

We lease certain office spaces, warehouses, facilities, vehicles and equipment. Our leases have maturity dates ranging from January 2025 to September 2042.

We incurred $26.2, $21.1 and $16.9 of rental expense under operating leases for the years ended December 31, 2024, 2023 and 2022, respectively, and are included within selling, general and administrative expenses within our consolidated statements of income. Payments related to short-term lease costs and taxes and variable service charges on leased properties were immaterial.

(Dollars and shares in millions, except per share amounts)

The following table presents the lease balances within our consolidated balance sheets, weighted average remaining lease term and weighted average discount rates related to our leases:

Lease Assets and Liabilities		**December 31, 2024**	**December 31, 2023**
Assets			
Operating lease, net	*Property, plant and equipment, net*	$ 78.6	$ 69.1
Finance lease, net	*Other assets*	14.7	16.1
Total lease assets		$ 93.3	$ 85.2
Liabilities			
Current:			
Operating lease liabilities	*Other current liabilities*	$ 19.6	$ 18.5
Finance lease liabilities	*Other current liabilities*	2.5	3.0
Non-current:			
Operating lease liabilities	*Other long-term liabilities*	60.5	50.7
Finance lease liabilities	*Other long-term liabilities*	12.9	14.2
Total lease liabilities		$ 95.5	$ 86.4
Weighted-average remaining lease terms			
Operating leases		6.4 years	5.1 years
Finance leases		7.2 years	5.9 years
Weighted-average discount rate			
Operating leases		7.0%	6.6%
Finance leases		6.8%	6.7%

We recorded net non-cash right-of-use assets in exchange for finance and operating lease liabilities of $0.0 and $25.4 for the year ended December 31, 2024, respectively. We recorded net non-cash right-of-use assets in exchange for finance and operating lease liabilities of $15.4 and $62.3 for the year ended December 31, 2023, respectively.

The following table summarizes future minimum lease payments for non-cancelable operating leases and for finance leases as of December 31, 2024:

	Finance	**Operating**
2025	$ 3.2	$ 23.7
2026	2.9	18.7
2027	2.7	13.7
2028	2.1	11.4
2029	1.8	8.4
Thereafter	7.2	24.5
Total future minimum lease payments	$ 19.9	$ 100.4
Less: Present value discount	(4.5)	(20.3)
Lease liability	$ 15.4	$ 80.1

(Dollars and shares in millions, except per share amounts)

Lessor Accounting

We lease equipment manufactured by Chart as sales-type and operating leases. As of December 31, 2024 and 2023, our short-term net investment in sales-type leases was $8.1 and $21.4, respectively and is included in other current assets in our consolidated balance sheets. Our long-term net investment in sales-type leases was $31.7 and $62.1 as of December 31, 2024 and 2023, respectively, and is included in other assets in our consolidated balance sheets.

Operating leases offered by Chart may include early termination options. At the end of a lease, a lessee generally has the option to either extend the lease, purchase the underlying equipment for a fixed price or return it to Chart. The lease agreements clearly define applicable return conditions and remedies for non-compliance to ensure that leased equipment will be in good operating condition upon return.

The following table represents sales from sales-type and operating leases:

	December 31,		
	2024	2023	2022
Sales-type leases	$ 59.1	$ 39.3	$ 28.1
Operating leases	4.8	5.2	4.1
Total sales from leases	$ 63.9	$ 44.5	$ 32.2

The following table represents scheduled payments for sales-type leases:

	December 31, 2024
2025	$ 7.1
2026	8.6
2027	8.5
2028	8.3
2029	8.3
Thereafter	26.1
Total	66.9
Less: Unearned income	27.1
Total	$ 39.8

The following table represents the cost of equipment leased to others:

	December 31,	
	2024	2023
Equipment leased to others, cost	$ 1.5	$ 20.6
Less: Accumulated depreciation	0.2	4.4
Equipment leased to others, net	$ 1.3	$ 16.2

NOTE 20 — Commitments and Contingencies

Environmental

We are subject to federal, state, local, and foreign environmental laws and regulations concerning, among other matters, waste water effluents, air emissions, and handling and disposal of hazardous materials, such as cleaning fluids. We are involved with environmental compliance, investigation, monitoring, and remediation activities at certain of our owned and formerly owned manufacturing facilities, and, except for these continuing remediation efforts, believe we are currently in substantial compliance with all known environmental regulations. Undiscounted accrued reserves at December 31, 2024 and 2023 were not material.

Legal Proceedings

We are occasionally subject to various legal claims related to performance under contracts, product liability, taxes, employment matters, environmental matters, intellectual property, and other matters incidental to the normal course of our business. Based on our historical experience in litigating these claims, as well as our current assessment of the underlying merits of the claims and applicable insurance, if any, management believes that the final resolution of these matters will not have a material adverse effect on our financial position, liquidity, cash flows, or results of operations. Due to the inherent uncertainties related to the eventual outcome of litigation and potential insurance recoveries, it is possible that certain matters may be resolved for amounts materially different from any provisions or disclosures that we have previously made.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
(Dollars in millions)

		Additions				
	Balance at beginning of period	Charged to costs and expenses	Charged to other accounts	Deductions	Translations	Balance at end of period
Year Ended December 31, 2024						
Allowance for credit losses	$ 5.9	$ 0.6	$ —	$ (1.8) [1]	$ (0.2)	$ 4.5
Deferred tax assets valuation allowance	90.3	8.3	—	—	—	98.6
Year Ended December 31, 2023						
Allowance for credit losses	$ 4.5	$ 2.2	$ —	$ (0.6) [1]	$ (0.2)	$ 5.9
Deferred tax assets valuation allowance	5.4	—	86.9	(2.0) [2]	—	90.3
Year Ended December 31, 2022						
Allowance for credit losses	$ 6.0	$ 0.5	$ —	$ (2.6) [1]	$ 0.6	$ 4.5
Deferred tax assets valuation allowance	21.6	0.4	—	(14.8)	(1.8)	5.4

(1) Reversal of amounts previously recorded as bad debt and uncollectible accounts written off.

(2) Deductions to the deferred tax assets valuation allowance relate to decreased deferred tax assets and the release of the valuation allowance.

INDEX TO EXHIBITS

Exhibit No.	*Description*
2.1	Stock Purchase Agreement, by and among Chart Inc., Chart Industries Luxembourg S.à r.l., Chart Asia Investment Company Limited and NGK Spark Plug Co., Ltd., dated as of September 28, 2018 (incorporated by reference to Exhibit 2.1 to the Registrant’s Current Report on Form 8-K filed with the SEC on October 1, 2018 (File No. 001-11442)).**
2.2	Asset Purchase Agreement, dated as of May 8, 2019, by and among Chart Industries, Inc., E&C FinFan, Inc. and Harsco Corporation (incorporated by reference to Exhibit 2.1 to the Registrant’s Current Report on Form 8-K, filed with the SEC on May 9, 2019).
2.3	Purchase Agreement by and between Chart Industries, Inc. and Cryoport, Inc. dated as of August 24, 2020 (incorporated by reference to Exhibit 2.1 to the Registrant’s Current Report on Form 8-K, filed with the SEC on August 25, 2020 (File No. 001-11442)).
2.4	Equity Purchase Agreement, dated as of November 8, 2022, by and among Granite Holdings I B.V., Granite Holdings II B.V., Granite US Holdings GP, LLC, Granite US Holdings LP, Granite Acquisition GmbH, Granite Canada Holdings Acquisition Corp., HowMex Holdings, S. de R.L. de C.V. and Chart Industries, Inc. (incorporated by reference to Exhibit 2.1 to the Registrant’s Current Report on Form 8-K, filed with the SEC on November 9, 2022 (File No. 001-11442)). **
2.5	Letter Agreement, dated December 7, 2022, by and among Granite Holdings I B.V., Granite Holdings II B.V., Granite US Holdings GP, LLC, Granite US Holdings LP, Granite Acquisition GmbH, Granite Canada Holdings Acquisition Corp., HowMex Holdings, S. de R.L. de C.V. and Chart Industries, Inc. (incorporated by reference to Exhibit 10.1 to the Registrant’s Current Report on Form 8-K, filed with the SEC on December 9, 2022 (File No. 001-11442)).
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to Amendment No. 5 to the Registrant’s Registration Statement on Form S-1 (File No. 333-133254)).
3.2	Amended and Restated By-Laws, as amended (incorporated by reference to Exhibit 3.1 to the Registrant’s Current Report on Form 8-K, filed with the SEC on December 19, 2008 (File No. 001-11442)).
4.1	Form of Certificate (incorporated by reference to Exhibit 4.1 to Amendment No. 4 to the Registrant’s Registration Statement on Form S-1 (File No. 333-133254)).
4.2	Description of Securities (incorporated by reference to Exhibit 4.3 to the Registrant’s Annual Report on Form 10-K filed with the SEC on February 28, 2024 (File No. 001-11442))
4.3	Certificate of Designations, filed with the Secretary of State of the State of Delaware and effective on December 13, 2022 (incorporated by reference to Exhibit 3.1 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 13, 2022 (File No. 001-11442)).
4.4	Form of Certificate for the 6.75% Series B Mandatory Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 13, 2022 (File No. 001-11442)).
4.5	Deposit Agreement, dated as of December 13, 2022, among Chart Industries, Inc., Computershare Inc. and Computershare Trust Company, N.A., acting jointly as Depositary, and the holders from time to time of the depositary receipts described therein (incorporated by reference to Exhibit 4.2 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 13, 2022 (File No. 001-11442)).
4.6	Form of Depositary Receipt for the Depositary Shares (incorporated by reference to Exhibit 4.2 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 13, 2022 (File No. 001-11442)).
4.7	Indenture, dated as of December 22, 2022, by and among Chart Industries, Inc., the subsidiary guarantors party thereto and U.S. Bank Trust Company, National Association, as trustee and as collateral agent (incorporated by reference to Exhibit 4.1 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).
4.8	Indenture, dated as of December 22, 2022, by and among Chart Industries, Inc., the subsidiary guarantors party thereto and U.S. Bank Trust Company, National Association, as trustee (incorporated by reference to Exhibit 4.2 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).
4.9	Form of 7.500% Senior Secured Notes due 2030 (incorporated by reference to Exhibit 4.1 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).
4.10	Form of 9.500% Senior Notes due 2031 (incorporated by reference to Exhibit 4.2 of the Registrant’s Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).

10.1	Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Appendix A to the Registrant's definitive proxy statement filed with the SEC on April 10, 2012 (File No. 001-11442)).*
10.1.1	Amendment No. 1 to the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2012 (File No. 001-11442)).*
10.1.2	Form of Nonqualified Stock Option Agreement (2014 grants) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.13 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-11442)).*
10.1.3	Form of Nonqualified Stock Option Agreement (2015 grants) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.16 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 (File No. 001-11442)).*
10.1.4	Form of Nonqualified Stock Option Agreement (2016 grants) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.18 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-11442)).*
10.1.5	Form of Nonqualified Stock Option Agreement (2017 grants) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.21 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-11442)).*
10.2	Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Appendix B to the Registrant's definitive proxy statement filed with the SEC on April 11, 2017 (File No. 001-11442)).*
10.2.1	Form of Nonqualified Stock Option Agreement (2018 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.25 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-11442)).*
10.2.2	Form of Performance Unit Agreement (2018 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.26 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-11442)).*
10.2.3	Form of Restricted Share Unit Agreement (2018 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.3.27 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-11442)).*
10.2.4	Form of Stock Award Agreement and Deferral Election Form (for eligible directors) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.3.4 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11442).*
10.2.5	Form of Nonqualified Stock Option Agreement (2019 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.3.5 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11442)).*
10.2.6	Form of Performance Unit Agreement (2019 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.3.6 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11442)).*
10.2.7	Form of Restricted Share Unit Agreement (2019 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.3.7 of the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11442))*
10.2.8	Form of Nonqualified Stock Option Agreement (2020 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.9 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11442)).*
10.2.9	Form of Performance Unit Agreement (2020 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.10 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11442)).*
10.2.10	Form of Restricted Share Unit Agreement (2020 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.11 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11442)).*
10.2.11	Form of Nonqualified Stock Option Agreement (2021 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.13 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11442)).*
10.2.12	Form of Performance Unit Agreement (2021 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.14 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11442))).*

10.2.13	Form of Restricted Share Unit Agreement (2021 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. (incorporated by reference to Exhibit 10.2.15 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11442))).*
10.2.14	Form of Nonqualified Stock Option Agreement (2022 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.15 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 (File No. 001-11442)).*
10.2.15	Form of Performance Unit Agreement (2022 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.16 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 (File No. 001-11442)).*
10.2.16	Form of Restricted Share Unit Agreement (2022 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.17 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 (File No. 001-11442)).*
10.2.17	Form of Nonqualified Stock Option Agreement (2023 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.18 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022 (File No. 001-11442)).*
10.2.18	Form of Performance Unit Agreement (2023 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.19 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022 (File No. 001-11442)).*
10.2.19	Form of Restricted Share Unit Agreement (2023 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.20 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022 (File No. 001-11442)).*
10.2.20	Form of Nonqualified Stock Option Agreement (2024 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.21 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2023 (File No. 001-11442)).*
10.2.21	Form of Performance Unit Agreement (2024 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.22 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2023 (File No. 001-11442)).*
10.2.22	Form of Restricted Share Unit Agreement (2024 grants) under the Chart Industries, Inc. 2017 Omnibus Equity Plan (incorporated by reference to Exhibit 10.2.23 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2023 (File No. 001-11442)).*
10.3	Chart Industries, Inc. 2024 Omnibus Equity Plan (incorporated by reference to Appendix B to the Registrant's definitive proxy statement filed with the SEC on April 10, 2024 (File No. 001-11442)).*
10.3.1	Form of Nonqualified Stock Option Agreement (2025 grants) under the Chart Industries, Inc. 2024 Omnibus Equity Plan.* (x)
10.3.2	Form of Performance Unit Agreement (2025 grants) under the Chart Industries, Inc. 2024 Omnibus Equity Plan.* (x)
10.3.3	Form of Restricted Share Unit Agreement (2025 grants) under the Chart Industries, Inc. 2024 Omnibus Equity Plan.* (x)
10.4	Amended and Restated Chart Industries, Inc. Voluntary Deferred Income Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 28, 2010 (File No. 001-11442)).*
10.4.1	Amendment No. 1 to the Amended and Restated Chart Industries, Inc. Voluntary Deferred Income Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 (File No. 001-11442)).*
10.4.2	Amendment No. 2 to the Amended and Restated Chart Industries, Inc. Voluntary Deferred Income Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 14, 2016 (File No. 001-11442)).*
10.5	Chart Industries, Inc. Cash Incentive Plan (incorporated by reference to Appendix A to the Registrant's definitive proxy statement filed with the SEC on April 8, 2014 (File No. 001-11442)).*
10.6	Chart Industries, Inc. Cash Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed, with the SEC on March 29, 2019 (File No. 001-11442)).*

10.7 Amended and Restated Employment Agreement, dated effective June 12, 2018, by and between Chart Industries, Inc. and Jillian C. Evanko (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on July 10, 2018 (File No. 001-11442)).*

10.8 Employment Agreement, dated October 26, 2017, by and between Chart Industries, Inc. and Gerald F. Vinci (incorporated by reference to Exhibit 10.14 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-11442)).*

10.9.1 Amended and Restated Severance Agreement, dated effective October 1, 2021, by and between Chart Industries, Inc. and Joe Brinkman (incorporated by reference to Exhibit 10.8 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 (File No. 001-11442)).*

10.9.2 Employment Agreement, dated effective January 1, 2025, by and between Chart Industries, Inc. and Joseph R. Brinkman.* (x)

10.10 Employment Agreement, dated March 26, 2019, by and between Chart Industries, Inc. and Herbert G. Hotchkiss (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 (File No. 001-11442)).*

10.11 Form of Indemnification Agreement (incorporated by reference to Exhibit 10.20 to the Registrant's Registration Statement on Form S-1 (File No. 333-133254)).

10.12 Fifth Amended and Restated Credit Agreement, dated as of October 18, 2021, by and among Chart Industries, Inc., Chart Industries Luxembourg S.à r.l., Chart Asia Investment Company Limited, the other foreign borrowers from time to time party thereto, the lenders from time to time party thereto, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on October 21, 2021 (File No. 001-11442)).

10.13 Amendment No. 1, dated as of November 21, 2022, to the Credit Agreement, dated as of October 18, 2021, by and among Chart Industries, Inc., the subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 22, 2022 (File No. 001-11442)).

10.14 Amendment No. 2, dated as of March 16, 2023, to the Credit Agreement, dated as of October 18, 2021, by and among Chart Industries, Inc., the subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 17, 2023 (File No. 001-11442)).

10.15 Amendment No. 3, dated as of March 17, 2023, to the Credit Agreement, dated as of October 18, 2021, by and among Chart Industries, Inc., the subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 17, 2023 (File No. 001-11442)).

10.16 Amendment No. 4, dated as of June 30, 2023, which amends that certain Fifth Amended and Restated Credit Agreement, dated as of October 18, 2021 (as amended by Amendment No. 1, dated as of November 21, 2022, Amendment No. 2, dated as of March 16, 2023, Amendment No. 3, dated as of March 17, 2023, and as otherwise amended, restated, supplemented or otherwise modified prior to the date hereof), by and among Chart Industries, Inc., the direct or indirect subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 30, 2023 (File No. 001-11442)).

10.17	Amendment No. 5, dated as of October 2, 2023, which amends that certain Fifth Amended and Restated Credit Agreement, dated as of October 18, 2021 (as amended by Amendment No. 1, dated as of November 21, 2022, Amendment No. 2, dated as of March 16, 2023, Amendment No. 3, dated as of March 17, 2023, Amendment No. 4, dated as of June 30, 2023, and as otherwise amended, restated, supplemented or otherwise modified prior to the date hereof), by and among Chart Industries, Inc., the direct or indirect subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 2, 2023 (File No. 001-11442)).
10.18	Amendment No. 6, dated as of April 8, 2024, which amends that certain Fifth Amended and Restated Credit Agreement, dated as of October 18, 2021 (as amended by Amendment No. 1, dated as of November 21, 2022, Amendment No. 2, dated as of March 16, 2023, Amendment No. 3, dated as of March 17, 2023, Amendment No. 4, dated as of June 30, 2023, Amendment No. 5, dated as of October 2, 2023, and as otherwise amended, restated, supplemented or otherwise modified prior to the date hereof), by and among Chart Industries, Inc., the direct or indirect subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 8, 2024 (File No. 001-11442)).
10.19	Amendment No. 7, dated as of July 2, 2024, which amends that certain Fifth Amended and Restated Credit Agreement, dated as of October 18, 2021 (as amended by Amendment No. 1, dated as of November 21, 2022, Amendment No. 2, dated as of March 16, 2023, Amendment No. 3, dated as of March 17, 2023, Amendment No. 4, dated as of June 30, 2023, Amendment No. 5, dated as of October 2, 2023, and Amendment No. 6, dated as of April 8, 2024, and as otherwise amended, restated, supplemented or otherwise modified prior to the date hereof), by and among Chart Industries, Inc., the direct or indirect subsidiaries of Chart Industries, Inc. designated as borrowers from time to time thereunder, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., Fifth Third Bank, National Association, HSBC Bank USA, National Association, PNC Bank, National Association and Wells Fargo Bank, National Association, as Co-Syndication Agents, and BMO Harris Bank, N.A., Capital One, N.A., Citizens Bank, N.A., MUFG Union Bank, N.A. and Regions Bank, as Co-Documentation Agents (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 3, 2024 (File No. 001-11442)).
10.20	Letter Agreement dated May 30, 2023, by and between Chart Industries, Inc. and Mr. Joseph Belling (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on July 28, 2023 (File No. 001-11442)).
10.21.1	Co-Investment Agreement, dated as of September 7, 2021, by and among Chart Industries, Inc., ISQ HTEC HoldCo Limited and ISQ Blueprint Acquisitions Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on October 21, 2021 (File No. 001-11442)).
10.21.2	Tri-Party Agreement, dated as of October 2, 2024, by and among HTEC Hydrogen Technology & Energy Corporation; ISQ HTEC HoldCo Limited; Colin Armstrong and Cenco Innovations Ltd.; and Chart Industries, Inc. (x)
10.22	Collateral Agreement, dated as of December 22, 2022, by and among Chart Industries, Inc., the subsidiary guarantors party thereto and U.S. Bank Trust Company, National Association, as collateral agent (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).
10.23	Intercreditor Agreement, dated as of December 22, 2022, by and among Chart Industries, Inc., the subsidiary guarantors party thereto, U.S. Bank Trust Company, National Association, as collateral agent for the secured notes, and JPMorgan Chase Bank, N.A., as administrative agent and collateral agent under the credit agreement (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on December 22, 2022 (File No. 001-11442)).
19.1	Insider Trading Policy. (x)
21.1	List of Subsidiaries. (x)
23.1	Consent of Independent Registered Public Accounting Firm - Deloitte & Touche. (x)

31.1	Rule 13a-14(a) Certification of the Company’s Chief Executive Officer and President. (x)
31.2	Rule 13a-14(a) Certification of the Company’s Vice President and Chief Financial Officer. (x)
32.1	Section 1350 Certification of the Company’s Chief Executive Officer and President. (xx)
32.2	Section 1350 Certification of the Company’s Vice President and Chief Financial Officer. (xx)
97.1	Chart Industries, Inc. Incentive-Based Compensation Clawback Policy (incorporated by reference to Exhibit 97.1 to the Registrant’s Annual Report on Form 10-K filed for the year ended December 31, 2023 (File No. 001-11442)).
101.INS	XBRL Instance Document (x)
101.SCH	XBRL Taxonomy Extension Schema Document (x)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document (x)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document (x)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document (x)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document (x)

(x) Filed herewith.

(xx) Furnished herewith.

* Management contract or compensatory plan or arrangement.

** Certain exhibits and schedules have been omitted and Chart agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted exhibits and schedules upon request.