

**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, 2020

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
State or other jurisdiction of
incorporation or organization

34-1712937
(I.R.S. Employer
Identification No.)

3055 Torrington Drive, 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

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

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

Indicate by 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.

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 \$48.49 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 \$1,739,104,518.

As of February 22, 2021, there were 36,308,260 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 13, 2021 (the "2021 Proxy Statement").

Except as otherwise stated, the information contained in this Annual Report on Form 10-K is as of December 31, 2020.

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 leading global manufacturer of highly engineered equipment servicing multiple market applications in the energy and industrial gas markets. Our unique product portfolio is used in every phase of the liquid gas supply chain including upfront engineering, service and repair. Being at the forefront of the clean energy transition, Chart is a leading provider of technology, equipment and services related to liquefied natural gas, hydrogen, biogas and CO2 Capture amongst other applications. We are committed to excellence in environmental, social and corporate governance (ESG) issues both for our company as well as our customers. With over 25 global locations 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 and industrial gases and their end-users. We sell our products and services to more than 2,000 customers worldwide. We have developed relationships with leading companies in the gas production, gas distribution, gas processing, liquefied natural gas or LNG, petroleum refining, chemical, industrial gas, spaceflight, over the road trucking manufacturing and hydrogen, CO2 capture and other clean energy industries, including Linde, Air Liquide, IVECO, Air Products, Shell, Chevron, ExxonMobil, New Fortress Energy, Samsung, Plug Power, SpaceX, and Blue Origin, some of whom have been purchasing our products for over 30 years.

We have attained this position by capitalizing on our technical expertise and know-how, broad product offering, reputation for quality, low-cost global manufacturing footprint, and by focusing on attractive, growing markets. We have an established sales and customer support presence across the globe and manufacturing operations in the United States, Europe, China and India. For the years ended December 31, 2020, 2019 and 2018, we generated sales of \$1,177.1 million, \$1,215.5 million, and \$1,003.9 million, respectively.

On October 1, 2020, we closed on the sale of our cryobiological products business to Cryoport, Inc. (NASDAQ: CYRX) (the “Cryobiological Divestiture”). Our disclosure in “Item 1. Business” reflects both the Cryobiological Divestiture and a prior 2018 divestiture and is presented on a continuing operations basis.

Segments, Applications and Products

As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2019, the structure of our internal organization was divided into the following reportable segments, which were also our operating segments: Distribution and Storage Eastern Hemisphere (“D&S East”), Distribution and Storage Western Hemisphere (“D&S West”), Energy & Chemicals (“E&C”) Cryogenics and E&C FinFans. Effective October 1, 2020, we changed our reportable segments to the following four 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, Europe and India, also serves most geographic regions globally, supplying mission critical engineered equipment and systems used in the separation, liquefaction, and purification of hydrocarbon and industrial gases that span gas-to-liquid applications. Operating globally, our Specialty Products segment supplies products used in specialty end-market applications including hydrogen, LNG, biogas, CO2 Capture, food and beverage, aerospace, lasers, cannabis and water treatment, among others. Our Repair, Service & Leasing segment provides installation, service, repair, maintenance, and refurbishment of cryogenic products globally in addition to providing equipment leasing solutions. All prior period amounts presented have been reclassified based on our current reportable segments.

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.

Sales were \$738.2 million (63%) for energy applications and \$438.9 million (37%) for industrial gas applications for the year ended December 31, 2020.

Cryo Tank Solutions

Cryo Tank Solutions (35% of consolidated sales for the year ended December 31, 2020) designs and manufactures cryogenic solutions for the storage and delivery of cryogenic liquids used in industrial gas and LNG applications. With operations in the United States, Latin America, Europe and Asia, our Cryo Tank Solutions segment serves customers globally. Cryo Tank Solutions principal products include bulk, microbulk and mobile equipment used in the storage, distribution, vaporization, and application of industrial gases and certain hydrocarbons.

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 sophisticated 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. Carbon dioxide, nitrous oxide and helium applications also utilize our equipment. 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 cryogenic liquids, 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. 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, regasification, 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 heavy duty truck and transit bus transportation, locomotive propulsion, marine, and power generation in remote areas that often occurs in oil and gas drilling. 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. We sell LNG applications around the world from various Eastern and Western Hemisphere facilities to numerous end-users, energy companies, and gas distributors. 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 diesel displacement initiatives, environmental and energy security initiatives, and the associated cost of equipment. Our competitors tend to be regionally focused or product-specific, while we supply a broad range of solutions required by LNG applications. We compete with compressed natural gas (CNG) or field gas in several of these applications and LNG is most highly valued where its energy density and purity are beneficial to the end-user.

Heat Transfer Systems

Heat Transfer Systems (31% of consolidated sales for the year ended December 31, 2020) facilitates major natural gas, petrochemical processing, petroleum refining, power generation and industrial gas and other clean energy (including hydrogen and CO2 capture) companies in the production of their products. With primary manufacturing capabilities in the U.S. 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 gas-to-liquid applications including natural gas processing, petrochemical, LNG, and petroleum refining. Heat Transfer Systems principal products include brazed aluminum heat exchangers, Core-in-Kettle® heat exchangers, cold boxes, air cooled heat exchangers, shell & tube heat exchangers, axial cooling fans, high pressure reactors and vessels along with associated process technologies.

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® and air cooled heat exchangers. 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. In the future, 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 heat exchangers and fans, including certain leading companies in the industrial gas and hydrocarbon processing industries as well as 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 train, 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 "Concept-to-Reality" 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, pressure vessels, and pipe work. These systems are used for global LNG projects, for both local LNG production as well as LNG export terminals. Our proprietary IPSMR® (Integrated Pre-cooled Single Mixed Refrigerant) liquefaction process technology offers lower capital expenditure rates 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 and environmental advantages over other fossil fuels. 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. We have several competitors for these applications, including leading industrial gas companies, other brazed aluminum heat exchanger manufacturers, and other equipment fabricators to whom we also act as a supplier of equipment, including heat exchangers and cold boxes.

HVAC, Power and Refining Applications

Our air cooled heat exchangers and axial cooling fans are used in HVAC, 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 crude 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 fluids. Worldwide power use is projected to grow 50% through 2050. This growth is focused in regions where strong economic growth is driving demand, particularly in Asia.

Specialty Products

Specialty Products (21% of consolidated sales for the year ended December 31, 2020) supplies highly-engineered equipment used in specialty end-market applications for hydrogen, LNG, biogas, CO2 Capture, food and beverage, aerospace, lasers, cannabis and water treatment, amongst others. Leveraging our manufacturing presence in both the Eastern and Western Hemispheres, Specialty Products serves customers globally. During 2020, we made a number of acquisitions to capitalize on clean energy market opportunities within this segment.

We supply solutions for the storage, distribution and end-use of hydrogen while also providing highly-specialized mobility and transportation equipment for use with LNG, including onboard vehicle tanks, fuel stations and railcars. More specifically, our horizontal LNG tanks are used onboard heavy-duty trucks and buses while our cryogenic railcars are used to transport not only LNG, but a number of other gaseous and liquid molecules. Additionally, we design and manufacture nitrogen dosing products and other equipment used in packaging as well as the food and beverage industry. These applications include processing, preservation and beverage carbonation.

Our water treatment technology is also offered through the Specialty Products segment. Serving both municipal and industrial end markets globally, our water treatment process technology utilizes Chart's cryogenic storage and vaporization equipment to efficiently deliver dissolved oxygen, CO₂ and ozone into water. Our technology is used for oxygenation, pH adjustment, oxidation and odor control with modular and mobile solution options. Other equipment and technology offered through Specialty Products have applications in CO₂ Capture, space and cannabis industries. We also offer cryogenic components, including vacuum insulated pipe ("VIP"), specialty liquid nitrogen, or LN₂, end-use equipment and cryogenic flow meters.

Hydrogen Applications

We design and manufacture solutions for the storage, distribution, liquefaction, regasification and use of hydrogen. There are a number of commercial uses for hydrogen including traditional applications in the chemical, refining and space industries. More recently however, hydrogen is increasingly being used as an alternative fuel for the transportation sector, with both onshore and marine applications. Given the global movement towards a lower carbon footprint, there are also a number of other potential uses for hydrogen on the horizon including power generation. To help enable this transition, we supply ISO containers and transport trailers for both gaseous and liquid hydrogen, in addition to fuel stations and other fueling solutions. We also manufacture various types of heat exchangers for hydrogen applications including brazed aluminum, air-cooled and shell & tube varieties.

Demand for many of our specialty applications including hydrogen is primarily driven by the global movement towards a lower-carbon footprint and reduced greenhouse gas emissions through all parts of the economy. These efforts are being guided not only by government policies and related global climate goals, but also by social and environmental pressures by the various stakeholders. Management believes hydrogen in particular will play an ever-increasing role in the energy transition, given its zero emission characteristics and naturally abundant supply. Similarly, management believes other equipment offered by Chart's Specialty Products segment will be required to achieve global greenhouse gas reduction targets, including the company's carbon capture and biogas technology, water treatment offerings and specialty packaging equipment. Demand for LNG is also likely to continue benefiting from the ongoing energy transition given its environmental advantages over other fossil fuels. 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 (13% of consolidated sales for the year ended December 31, 2020) provides installation, service, repair, maintenance, and refurbishment of our products globally in addition to providing equipment leasing solutions. With operations in the United States, Latin America, Europe and Asia, our Repair, Service & Leasing segment serves customers globally.

To support the products and solutions we sell, our Repair, Service & Leasing segment offers services through the entire lifecycle of our products, which is unique and unparalleled in the markets we serve. Our focus is to build relationships with plant stakeholders, from process and mechanical engineers to operations and maintenance personnel, 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, and upgrades. We perform plant services on equipment, including brazed aluminum heat exchangers, cold boxes, etc.

We also install, service, maintain and 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, 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 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. We offer short and long-term operating leases as well as lease to own options with up to a ten-

year term. Typical equipment we offer with leasing options include standard trailers, bulk and micro bulk storage systems, vaporizers and delivery tankers.

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 broad range of services on a worldwide basis.

Engineering and Product Development

Our engineering and product development activities are focused primarily on developing new and improved solutions and equipment for the users of cryogenic liquids and hydrocarbon and industrial gases across all industries served. Our engineering, technical, and marketing 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 and 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, cryobiological storage, power, HVAC and refining applications in countries throughout the world. Sales to our top ten customers accounted for 42%, 34%, and 41% of consolidated sales in 2020, 2019 and 2018, respectively.

Our sales to particular customers fluctuate from period to period, but the global producers and distributors of hydrocarbon and industrial gases and their suppliers tend to be a consistently large source of revenue for us. Our supply contracts are generally contracts for “requirements” only. While our customers may be obligated to purchase a certain percentage of their supplies from us, there are generally no minimum requirements. Also, many of our contracts may be canceled at any time, subject to possible cancellation charges. 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. We believe our relationships with our customers are generally good.

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. We have long-term relationships with our raw material suppliers and other vendors. Commodity components of our raw material (stainless steel and carbon steel) could experience some level of volatility during 2021 and may have a relational impact on raw material pricing. Subject to certain 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, 2021, we had 4,318 employees, including 2,006 domestic employees and 2,312 international employees.

We are party to one collective bargaining agreement with the International Association of Machinists and Aerospace Workers ("IAM") covering 242 employees at our La Crosse, Wisconsin heat exchanger facility. Effective February 8, 2021, we entered into a five agreement with the IAM which expires on February 8, 2026.

Chart is committed to attracting and retaining the best talent. Therefore, investing, developing, and maintaining human capital is critical to our success. As a global manufacturing company, a meaningful number of our employees are engineers or trained trade or technical workers focusing on advanced manufacturing. 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 2020, we did not experience any employee-generated work stoppages or disruptions, and we consider our employee relations to be satisfactory.

Our key human capital measures include employee safety, turnover, absenteeism and production. 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.

Covid-19 and Employee Safety and Wellness

During the coronavirus (Covid-19) pandemic, the safety and well-being of our employees and their families has been a top priority as we continue to serve our customers, many of which are directly involved in critical medical care. Our global pandemic efforts include leveraging the advice and recommendations of infectious disease experts and recognized organizations to establish appropriate safety standards and secure appropriate levels of personal protective equipment for our workforce. Based upon these recommendations, we have adopted and implemented a Covid-19 Response Plan to outline our company policies and procedures designed to mitigate the potential for transmission of Covid-19 and prevent exposure to illness from certain other infectious diseases. These protocols, which remain in place, meet or exceed the Centers for Disease Control guidelines and where applicable, state and local government mandates. Our employees were trained on these protocols prior to or upon returning to work and on an ongoing basis, receive regular updates as rules and guidelines evolve.

Among other things, Chart's Covid-19 Response Plan details employee, manager, and company responsibilities related to house-keeping and sanitization, hygiene and respiratory etiquette, use of personal protective equipment, employee and visitor screening procedures, leave policies and accommodations, travel guidelines, remote working opportunities and infrastructure, and protocols for not reporting to work and/or when to return to work upon potential and/or confirmed Covid-19 exposure or infection. Chart also suspended tele-doc charges for all employees to reduce unnecessary hospital and doctor visits. In addition to procuring personal protective equipment, screening stations and other preventative resources, we also leveraged our

technology and human capital to accommodate the heightened level of demand for critical care equipment required by customers around the world to fight Covid-19.

Chart has ongoing communications about safety performance at all levels of the organization. Our Global Safety Council meets monthly to discuss accidents, injuries, near misses, trends and lessons learned. Council members 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 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 diverse 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, Emerging Welders program, an Engineering Rotational program, an Engineering Fellows and Key Experts 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 put into practice 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 appropriate 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. Chart has partnered with Historically Black Colleges and Universities (HBCUs) to drive a more diverse and inclusive workforce. Our Chief Executive Officer and President, Jillian Evanko, has also signed the CEO Action for Diversity & Inclusion™ pledge, and our Global Diversity & Inclusion Committee is working with our 4,318 team members to ensure all of our key themes and priorities work seamlessly together in our culture for the best employee experience.

Environmental Matters

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 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.

We are involved with environmental compliance, investigation, monitoring, and remediation activities at certain of our owned or formerly owned manufacturing facilities and at one owned facility that is leased to a third party. 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 next 7 years as ongoing costs of remediation programs. We do not believe that these regulatory requirements have had a material effect upon our capital expenditures, earnings, or competitive position. We are not anticipating any material capital expenditures in 2021 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 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 shareholder 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 depends in large part 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. Even if demand improves, it is difficult to predict whether any improvement represents a long-term improving trend or the extent or timing of improvement. There can be no assurance that historically improving cycles are representative of actual future demand.

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 2,000 customers, sales to our top ten customers accounted for 42%, 34%, and 41% of consolidated sales in 2020, 2019 and 2018, respectively, with sales to one customer of approximately 11.9% of consolidated sales in 2018; we expect that a similar number of customers will continue to represent a substantial portion of our sales for the foreseeable future. While our sales to particular customers fluctuate from period to period, the global producers and distributors of hydrocarbon 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 2020 increased year over year, we continued to experience energy price volatility and our customers’ adjusted project timing. Delays in the

anticipated timing of LNG infrastructure build out could materially reduce the demand for our products. Our largest customers could also engage in business combinations, which could increase their size, reduce their demand for our products as they recognize synergies or rationalize assets and increase or decrease the portion of our total sales concentration to any single customer. For example, four of our largest customers have combined in recent years, with Airgas and Air Liquide combining in 2016 and Praxair and Linde combining in 2018. Further industry consolidation could further exacerbate our customer concentration risk.

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. For example, we completed the acquisition of the Air-X-Changers business “AXC” in July 2019 for a purchase price of approximately \$599.7 million. More recently, we have closed on several acquisitions in new clean energy markets, such as hydrogen, water, carbon and direct air capture. These high growth markets represent new businesses that are complementary to our existing LNG and gas technologies. The failure to achieve the anticipated synergies of our recent significant acquisitions or recognize the anticipated market opportunities or integration from our new clean energy acquisitions, could have a material adverse effect on our business, financial condition and results of operations.

From time to time, we may have acquisition discussions with other potential target companies both domestically and internationally. If a large acquisition opportunity arises and we proceed, a substantial portion of our cash and surplus borrowing capacity could be used for the acquisition or we may seek additional debt or equity financing.

Potential acquisition opportunities become available to us from time to time, and we periodically engage in discussions or negotiations relating to potential acquisitions, including acquisitions that may be material in size or scope to our business. Any acquisition may or may not occur and, if an acquisition does occur, it may not be successful in enhancing our business for one or more of the following reasons:

- Any business acquired may not be integrated successfully and may not prove profitable;
- The price we pay for any business acquired may overstate the value of that business or otherwise be too high;
- Liabilities we take on through the acquisition may prove to be higher than we expected;
- We may fail to achieve acquisition synergies; and/or
- The focus on the integration of operations of acquired entities may divert management’s attention from the day-to-day operation of our businesses.

Inherent in any future acquisition is the risk of transitioning company cultures and facilities. The failure to efficiently and effectively achieve such transitions could increase our costs and decrease our profitability.

If we are unable to successfully control our costs and efficiently manage our operations, it may place a significant strain on our management and administrative resources and lead to increased costs and reduced profitability.

We have implemented cost savings initiatives to align our business with 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. Ineffective management could cause manufacturing inefficiencies, increase our operating costs, place significant strain on our management and administrative resources, and prevent us from being able to take advantage of opportunities as economic conditions improve. 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.

Similarly, it is critical that we appropriately manage our planned capital expenditures in this uncertain economic environment. For example, we have invested or plan to invest approximately \$40 to \$50 million in new capital expenditures in 2021. If we fail to manage the projects related to these capital expenditures in an effective manner, we may lose the opportunity to obtain some new customer orders or the ability to operate our businesses efficiently. Even if we effectively implement these projects, the orders needed to support the capital expenditure may not be obtained, may be delayed, or may be less than expected, which may result in sales or profitability at lower levels than anticipated.

Changes in the energy industry, including pricing fluctuations and reductions and capital expenditures could harm our business, financial condition, and results of operations.

A significant amount of our sales is to customers in the energy production and supply industry. Our concentration of sales to the energy industry has increased as a result of our recent acquisitions and the divestiture of our oxygen-related products business in December 2018 and our Cryobiological business in October 2020. We estimate that 63% of our sales for the year ended December 31, 2020 were generated by end-users in the energy industry, with many of our products sold for natural gas-related applications. Accordingly, demand for a significant portion of our products depends upon the level of capital expenditures by companies in the oil and gas industry, which depends, in part, on energy prices, as well as the price of oil relative to natural gas for some applications. Some applications for our products could see greater demand when prices for natural gas are relatively low compared to oil prices, but a sustained decline in energy prices generally and a resultant downturn in energy production activities could negatively affect the capital expenditures of our customers. Deterioration and significant decline in the capital expenditures of our customers, whether due to a decrease in the market price of energy or otherwise, may decrease demand for our products and cause downward pressure on the prices we charge. Accordingly, if there is a downturn in the energy production and supply industry, including a decline in the cost of oil relative to natural gas, our business, financial condition, and results of operations could be adversely affected.

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, 2020, we had goodwill and indefinite-lived intangible assets of \$1,009.8 million, which represented approximately 39.3% 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. As a result of the above analyses, we recorded an impairment charge related to indefinite-lived intangible assets of \$16.0 million during the fourth quarter of 2020. If we determine at a future time that further impairment exists, it may result in a significant non-cash charge to earnings and lower stockholders' equity.

We have identified material weaknesses in our internal control over financial reporting that may, if not remediated, result in material misstatements in our financial statements.

We are responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. As disclosed in Item 9A, "Controls and Procedures," we identified material weaknesses in our control over financial reporting related to the review of our goodwill and indefinite-lived intangible assets for impairment. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the registrant's annual or interim financial statements will not be prevented or detected on a timely basis. As a result of the material weaknesses, we concluded that our internal control over financial reporting and related disclosure controls and procedures were not effective based on criteria established by the Committee of Sponsoring Organizations of the Treadway Commission framework. The material weaknesses did not result in any identified misstatements to the financial statements, and there were no changes to previously issued financial results. Our remediation of the identified material weaknesses and strengthening our internal control environment is ongoing. However, we cannot guarantee that these steps have been sufficient or that we will prevent a material weakness in the future. If our remediation efforts are insufficient to address the material weaknesses, or if additional material weaknesses in our internal control over financial reporting are discovered or occur in the future, our financial statements may contain material misstatements, and we could be required to restate our financial statements.

The Covid-19 pandemic may disrupt our operations and could adversely affect our business in the future.

While, the Covid-19 pandemic has not had a material impact on our business or operations to date, the pandemic could have a negative effect on our business, results of operations, cash flows and financial condition in the future. The Covid-19 pandemic may affect our business, including as a result of temporary facility closures, work-from-home orders and policies, absenteeism in our facilities, inability to efficiently transport our goods, social distancing and other health and safety protocols and reduced customer demand. While our production has been considered "essential" in all locations we operate in, we have experienced, and expect to continue to experience in the future, temporary facility closures in response to government mandates

and for the safety of our employees due to positive diagnoses for Covid-19 in certain facilities. Temporary facility closures could impact our productivity and hamper the implementation of our ongoing operational improvement efforts. We have implemented work-from-home policies for many employees. The effects of these work-from-home policies could be negative and could impact productivity, research and development efforts, our ongoing operational improvement efforts, internal control over financial reporting, record keeping and access to books and records, and could lead to increased cyber security or data privacy risks. We do not yet know when these work-from-home policies will change or how they may develop. The Covid-19 outbreak could impact the timing of our operational improvement efforts by limiting our ability to implement planned improvements at several of our facilities. The Covid-19 outbreak could adversely impact our ability to secure materials for our products or supplies for our facilities or to provide personal protective equipment for our employees, any of which could adversely affect our operations. Even after the Covid-19 pandemic 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. Any or all of these risks could be increased or intensified if there is a continued resurgence of the Covid-19 virus after the initial outbreaks subside. As we cannot predict the duration, scope or severity of the Covid-19 pandemic, which continues to develop and change rapidly, the negative financial impact to our results cannot be reasonably estimated, but could be material.

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, 2020 was \$810.0 million. Our backlog can be significantly affected by the timing of orders for large projects, and the amount of our backlog at December 31, 2020 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 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. For example, during 2015, certain backlog in China was reduced by approximately \$150.0 million when circumstances suggested that our customers were not likely to take delivery in the future. Our failure to replace canceled orders could negatively impact our sales and results of operations. We did not have any significant cancellations in 2020, 2019 and 2018.

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, medical, transportation, or consumer use, we face an inherent risk of exposure to claims (which we have been subject to from time to time and some of which were substantial including the cryobiological storage tank lawsuits filed in 2018 as discussed in Item 3. "Legal Proceedings") 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 we believe is 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.

Governmental 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 markets we serve, including the United States, Asia, Australia, Europe, and Latin America. 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. 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, including likely changes in the United States as a result of the change in Presidential administration. The elimination

or reduction of favorable policies for our energy-related business, or the failure to adopt expected policies that would benefit our business, could negatively impact our sales and profitability.

Our exposure to fixed-price contracts, including exposure to fixed pricing on long-term customer contracts and performance guarantees, could negatively impact our financial results.

A substantial portion of our sales has historically been derived from fixed-price contracts for large system projects which may involve long-term fixed price commitments to customers or guarantees of equipment or process performance and which are sometimes difficult to execute. To the extent that any of our fixed-price contracts are delayed, we fail to satisfy a performance guarantee, our subcontractors fail to perform, contract counterparties successfully assert claims against us, the original cost estimates in these or other contracts prove to be inaccurate or the contracts do not permit us to pass increased costs on to our customers, profitability from a particular contract may decrease or project losses may be incurred, which, in turn, could decrease our sales and overall profitability. The uncertainties associated with our fixed-price contracts make it more difficult to predict our future results and exacerbate the risk that our results will not match expectations, which has happened in the past.

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 sole suppliers or 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. While we have not historically encountered problems with availability, and our global sourcing team has mitigated these risks by increasing inventory for some of these materials, this does not mean that we will continue to have timely access to adequate supplies of essential materials and components in the future or that supplies of these materials and components will be available on satisfactory terms when needed. 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.

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 limited 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 convertible notes have a fixed cash coupon, other instruments, primarily borrowings under our senior secured revolving credit facility (the “SSRCF”) and a term loan (together, the “2024 Credit Facilities”) are exposed to a variable interest rate. 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.

As an increasingly 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 2020, 2019 and 2018, 51%, 48%, and 43%, 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, turmoil or outbreak of disease or illness, such as the 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 below, and import or export licensing requirements;
- potential adverse changes in trade agreements between the United States and foreign countries, including the recently enacted United States-Mexico-Canada Agreement (USMCA), among the United States, Canada and Mexico;
- uncertainty and potentially negative consequences relating to the implementation of the United Kingdom’s decision to leave the European Union (“Brexit”);
- 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 collecting international accounts receivable;
- 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. For example, we are faced with potential difficulties in staffing and managing local operations and we have to design local solutions to manage credit and legal risks of local customers and distributors, which may not be effective. In addition, because some of our international sales are to suppliers that perform work for foreign governments, we are 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 in Eastern Europe, the Middle East, Hong Kong or elsewhere, 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.

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 U.S. as a result of such changes, could adversely affect our business. The Trump administration instituted or proposed changes in trade policies that include the negotiation or termination of trade agreements, the imposition of higher tariffs on imports into the U.S., economic sanctions on individuals, corporations or countries, and other government regulations affecting trade between the U.S. and other countries where we conduct our business. It may be time-consuming and expensive for us to alter our business operations in order to adapt to or comply with these and any additional changes that may be implemented by the Biden administration.

U.S. government policy changes and proposals may result in greater restrictions and economic disincentives on international trade. The implementation of new tariffs and other changes in U.S. trade policy could trigger retaliatory actions by affected countries, and certain foreign governments have instituted or have been considering imposing trade sanctions on certain U.S. goods. We do a significant amount of business that would be impacted by changes to the trade policies of the U.S. 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.

Data privacy and data security considerations could impact our business.

The interpretation and application of data protection laws, including but not limited to the General Data Protection Regulation (the “GDPR”) in Europe, are uncertain and 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. Further, although we are implementing internal controls and procedures designed to ensure compliance with the GDPR and other privacy-related laws, rules and regulations (collectively, the “Data Protection Laws”), there can be no assurance that our controls and procedures will enable us to fully comply with all Data Protection Laws.

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.

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 2021 to 2039.

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.

We may be required to make expenditures in order to comply with environmental, health and safety laws and climate change 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. Health and safety and other laws in the jurisdictions in which we operate impose various requirements on us including state licensing requirements that may benefit our customers. 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 or former facilities. For example, the discovery of contamination arising from historical industrial operations at our Clarksville, Arkansas property, which is currently being leased to a third party business, has exposed us, and in the future may continue to expose us, to remediation obligations. 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, 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.

There is a growing political and scientific consensus that emissions of greenhouse gases alter the composition of the global atmosphere in ways that are affecting the global climate. Various stakeholders, including legislators and regulators, stockholders and non-governmental organizations, as well as companies in many business sectors, are considering ways to reduce greenhouse gas emissions. New regulations could result in product standard requirements for our global businesses but because any impact is dependent on the design of the mandate or standard, we are unable to predict its significance at this time. Furthermore, the potential physical impacts of theorized climate change on our customers, and therefore on our operations, are speculative and highly uncertain, and would be particular to the circumstances developing in various geographical regions. These may include changes in weather patterns (including drought and rainfall levels), water availability, storm patterns and intensities, and temperature levels. These potential physical effects may adversely impact the cost, production, sales and financial performance of our operations.

Our pension plan is currently underfunded and we contribute to a multi-employer plan for collective bargaining U.S. employees, which is also underfunded.

Certain U.S. hourly and salaried employees are covered by our defined benefit pension plan. The plan has been frozen since February 2006. As of December 31, 2020, the projected benefit obligation under our pension plan was approximately \$62.5 million, and the value of the assets of the plan was approximately \$53.9 million, resulting in our pension plan being underfunded by approximately \$8.6 million.

As part of the Hudson acquisition we acquired a noncontributory defined benefit plan covering certain employees of a Hudson subsidiary. The Hudson plan is closed to new participants. As of December 31, 2020, the projected benefit obligation of the Hudson plan was \$2.9 million, and the fair value of plan assets were \$2.0 million, resulting in the pension plan being underfunded by approximately \$0.9 million.

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 pension plan 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.

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 U.S., 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 New Iberia, Louisiana, Theodore, Alabama and Houston, Texas, are located in geographic regions and physical locations that are susceptible to physical damage and longer-term economic disruption from hurricanes or other severe weather. 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. In September 2008, for example, our New Iberia, Louisiana facility was forced to close as a result of heavy rainfall, evacuations, strong winds and power outages resulting from Hurricane Gustav. Two weeks after Hurricane Gustav, winds and flooding from Hurricane Ike damaged our New Iberia, Louisiana, Houston, Texas and The Woodlands, Texas operations and offices, and those facilities were also closed for a period of time. Future hurricanes or other severe weather 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. Additionally, the potential physical impact of theorized climate change could include more frequent and intense storms, which would heighten the risk to our operations in areas that are susceptible to hurricanes and other severe weather. 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.

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

Due to our significant foreign sales, 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 federal rules, regulations, audits and investigations, the violation or failure of which could adversely affect our business.

We sell certain of our products 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. 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.

Current economic and political conditions make tax rules in jurisdictions subject to significant 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. Although our effective tax rate decreased during 2018, there can be no assurances that any expected benefit from the Tax Cuts and Jobs Act will be maintained long-term given political and other uncertainties.

Also, further changes in the tax laws of foreign jurisdictions could arise, including as a result of the base erosion and profit shifting (BEPS) project undertaken by the Organisation for Economic Co-operation and Development (OECD). 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. These contemplated changes, to the extent adopted by OECD members and/or other countries, could increase tax uncertainty and may adversely affect 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.

Risks Related to Our Leverage

Our leverage and future debt service obligations could adversely affect our financial condition, limit our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry, impact the way we operate our business, expose us to interest rate risk to the extent of our variable rate debt and prevent us from fulfilling our debt service obligations.

We are leveraged and have future debt service obligations. Our financial performance could be affected by our leverage. As of December 31, 2020, our total indebtedness was \$485.4 million. In addition, at that date, under our senior secured revolving credit facility, we had \$63.3 million of letters of credit and bank guarantees outstanding and borrowing capacity of approximately \$363.2 million. Through separate facilities, our subsidiaries had \$47.7 million in bank guarantees outstanding at December 31, 2020.

Our level of indebtedness could have important negative consequences, including:

- difficulty in generating sufficient cash flow and 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 due to variable rates of interest under our senior secured revolving credit facility;
- vulnerability to general economic downturns and adverse industry conditions;
- increased competitive disadvantage due to our debt service obligations;
- 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 still be able to incur substantially more debt. This 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. In connection with our AXC acquisition, we entered into a \$450.0 million term loan facility, furthermore, our senior secured revolving credit facility provides commitments of up to \$550.0 million, approximately \$363.2 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, 2020. See Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Debt Instruments and Related Covenants.” We may also further increase the size of our senior secured revolving credit facility which includes an expansion option permitting us to add up to an aggregate of \$450.0 million in additional borrowings, subject to certain conditions, or we could refinance with higher borrowing limits. If new debt is added to our current debt levels, the related risks that we now face could intensify.

The senior secured revolving credit facility contains a number of restrictive covenants which limit our ability to finance future operations or capital needs or engage in other business activities that may be in our interest.

The 2024 Credit Facilities 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 2024 Credit Facilities also require 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 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 or our inability to comply with the required financial ratios could result in a default under our 2024 Credit Facilities. If an event of default occurs under our senior secured revolving credit facility, which includes an event of default under the indenture governing our 1.00% Convertible Senior Subordinated Notes due November 2024, the lenders could elect to:

- declare all borrowings outstanding, together with accrued and unpaid interest, to be immediately due and payable; or
- require us to apply all of our available cash to repay the borrowings,

either of which could result in an event of default under our convertible notes or prevent us from making payments on the convertible notes when due in 2024, as the case may be. The lenders 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 these borrowings when due, our lenders could sell the collateral securing the 2024 Credit Facilities, which constitutes substantially all of our and our domestic wholly-owned subsidiaries’ assets.

Our 1.00% Convertible Senior Subordinated Notes due November 2024 have certain fundamental change and conditional conversion features which, if triggered, may adversely affect our financial condition.

If a fundamental change occurs under our 1.00% Convertible Senior Subordinated Notes due November 2024, the holders of the convertible notes may require us to purchase for cash any or all of the convertible notes. However, there can be no assurance that we will have sufficient funds at the time of the fundamental change to purchase all of the convertible notes

delivered for purchase, and we may not be able to arrange necessary financing on acceptable terms, if at all. Likewise, if one of the conversion contingencies of our convertible notes is triggered, holders of convertible notes will be entitled to convert the convertible notes at any time during specified periods.

We are subject to counterparty risk with respect to the convertible note hedge and capped call transactions associated with our 1.00% Convertible Senior Subordinated Notes due November 2024.

The option counterparties for our convertible note hedging arrangements are financial institutions, and we will be subject to the risk that any or all of them might default under the convertible note hedge and capped call transactions. Our exposure to the credit risk of the option counterparties is not secured by any collateral. Global economic conditions during the 2008-2009 economic downturn resulted in the actual or perceived failure or financial difficulties of many financial institutions. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under the convertible note hedge and capped call transactions with that option counterparty. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price and in the volatility of our common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our common stock. We can provide no assurances as to the financial stability or viability of the option counterparties.

Risks Related to the Trading Market for Our Common Stock

Our common stock has experienced, and may continue to experience, price volatility.

Our common stock has at times experienced substantial price volatility as a result of many factors, including the general volatility of stock market prices and volumes, changes in securities analysts' estimates of our financial performance, variations between our actual and anticipated financial results, fluctuations in order or backlog levels, fluctuations in energy prices, or uncertainty about current global economic conditions. For these reasons, among others, the price of our stock may continue to fluctuate.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws and other agreements and in Delaware law may discourage a takeover attempt.

Provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws and Delaware law could make it more difficult for a third party to acquire us. Provisions of our amended and restated certificate of incorporation and amended and restated bylaws and Delaware law impose various procedural and other requirements, which could make it more difficult for stockholders to effect certain corporate actions. For example, our amended and restated certificate of incorporation authorizes our board of directors to determine the rights, preferences, privileges and restrictions of unissued series of preferred stock, without any vote or action by our stockholders. Therefore, our board of directors can authorize and issue shares of preferred stock with voting or conversion rights that could adversely affect the voting or other rights of holders of our common stock. These rights may have the effect of delaying or deterring a change of control of our company. These provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock.

In addition, the terms of our 1.00% Convertible Senior Subordinated Notes due November 2024 may require us to purchase these convertible notes for cash in the event of a takeover of our Company. The indentures governing the convertible notes also prohibit us from engaging in certain mergers or acquisitions unless, among other things, the surviving entity assumes our obligations under the convertible notes. These and other provisions applicable to the convertible notes may have the effect of increasing the cost of acquiring us or otherwise discourage a third party from acquiring us.

The issuance of common stock upon conversion of our 1.00% Convertible Senior Subordinated Notes due November 2024 could cause dilution to the interests of our existing stockholders.

As of December 31, 2020, we had \$258.8 million aggregate principal amount of our 1.00% Convertible Senior Subordinated Notes due November 2024. Prior to the close of business on the business day immediately preceding August 15, 2024, the convertible notes will be convertible only upon satisfaction of certain conditions. Holders may convert their 1.00% convertible notes at their option at any time after August 15, 2024 until the close of business on the second scheduled trading day immediately preceding November 15, 2024. As a result of attaining these specified market price conditions, the notes were convertible in the first quarter of 2021, although no notes have been converted to date. We currently intend to settle conversions of 1.00% convertible notes through a combination of the payment of cash and issuance of shares, with payments of cash up to the aggregate principal amount of the convertible notes to be converted and delivering shares of our common stock in respect of the remainder, if any, of our conversion obligation in excess of the aggregate principal amount of the notes being

converted. The number of shares issued could be significant and such an issuance could cause significant dilution to the interests of the existing stockholders.

Item 1B. *Unresolved Staff Comments*

Not applicable.

Item 2. *Properties*

We occupy 54 facilities totaling approximately 5.7 million square feet, including the locations listed below, with the majority devoted to manufacturing, assembly, and storage. We also own several plots of land in the Czech Republic totaling approximately 0.5 million square feet, with the majority devoted to outdoor storage. Of these facilities, approximately 4.5 million square feet are owned and 1.2 million square feet are occupied under operating leases. One of our owned facilities, a 0.1 million square foot facility in Clarksville, Arkansas, is leased to a third party. We currently lease approximately 7.1 thousand square feet for our corporate office in Ball Ground, Georgia. Our major owned facilities in the United States are subject to mortgages securing our 2024 Credit Facilities.

The following table summarizes information about our principal plants and other materially important physical properties as of January 31, 2021:

Segment	Location	Ownership	Use
Corporate	Ball Ground, Georgia, U.S.	Leased	Office
Corporate	Hyderabad, India	Leased	Office
Corporate	Luxembourg, Luxembourg	Leased	Office
Cryo Tank Solutions/Specialty Products	Canton, Georgia, U.S.	Leased	Office/Warehouse
Cryo Tank Solutions/Heat Transfer Systems/Repair, Service & Leasing	Milan, Italy	Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Andhra Pradesh, India	Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Changzhou, China	Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Decin, Czech Republic	Leased/Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Goch, Germany	Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Kuala Lumpur, Malaysia	Leased	Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	Lery, France	Owned	Manufacturing/Office
Cryo Tank Solutions/Specialty Products/Repair, Service & Leasing	New Prague, Minnesota, U.S.	Leased/Owned	Manufacturing/Office
Heat Transfer Systems	Pombia, Italy	Leased	Manufacturing/Office
Heat Transfer Systems/Repair, Service & Leasing	Beasley, Texas, U.S.	Owned	Manufacturing/Warehouse
Heat Transfer Systems/Repair, Service & Leasing	Monterey, Mexico	Owned	Manufacturing/Office
Heat Transfer Systems/Repair, Service & Leasing	Tulsa, Oklahoma, U.S.	Leased/Owned	Manufacturing/Office/Warehouse
Heat Transfer Systems/Specialty Products/Repair, Service & Leasing	La Crosse, Wisconsin, U.S.	Leased/Owned	Manufacturing/Office/Warehouse
Heat Transfer Systems/Specialty Products/Repair, Service & Leasing	New Iberia, Louisiana, U.S.	Leased	Manufacturing
Heat Transfer Systems/Specialty Products/Repair, Service & Leasing	The Woodlands, Texas, U.S.	Leased	Office
Specialty Products	Fayetteville, Arkansas, U.S.	Leased	Office/Warehouse
Specialty Products	Orem, Utah, U.S.	Leased	Manufacturing/Office
Specialty Products	Theodore, Alabama, U.S.	Owned	Manufacturing/Office
Repair, Service & Leasing	Franklin, Indiana, U.S.	Leased	Manufacturing/Office/Service
Repair, Service & Leasing	Houston, Texas, U.S.	Owned	Service

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 upon our capital expenditures, earnings, or competitive position. We are not anticipating any material capital expenditures in 2021 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

Stainless Steel Cryobiological Tank Legal Proceedings

During the second quarter of 2018, Chart was named in lawsuits (including lawsuits filed in the U.S. District Court for the Northern District of California) filed against Chart and other defendants with respect to the alleged failure of a stainless steel cryobiological storage tank (model MVE 808AF-GB) at the Pacific Fertility Center in San Francisco, California. We continue

to evaluate the merits of such claims in light of the information available to date regarding use, maintenance and operation of the tank that was sold to the Pacific Fertility Center through an independent distributor and which has been out of our control for six years prior to the alleged failure. Accordingly, an accrual related to any damages that may result from the lawsuits has not been recorded because a potential loss is not currently probable or estimable. In connection with the Cryobiological Divestiture, Chart retained certain potential liabilities and claims, including the claims asserted in connection with the litigation.

We have asserted various defenses against the claims in the lawsuits, including a defense that since manufacture, we were not in any way involved with the installation, ongoing maintenance or monitoring of the tank or related fertility center cryogenic systems at any time since the initial delivery of the tank.

Aluminum Cryobiological Tank Legal Proceeding

Chart was named in a purported class action lawsuit filed during the second quarter of 2018 in the Ontario Superior Court of Justice against the Company and other defendants with respect to the alleged failure of an aluminum cryobiological storage tank (model FNL XC 47/11-6 W/11) at The Toronto Institute for Reproductive Medicine in Etobicoke, Ontario. A settlement has been reached by the parties in the lawsuit with no material effect on the Company’s financial position, results of operations or cash flows.

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. 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.”

Item 4. Mine Safety Disclosures

Not applicable.

Item 4A. Executive Officers of the Registrant*

The name, age and positions of each Executive Officer of the Company as of February 15, 2021 are as follows:

Name	Age	Position
Jillian C. (Jill) Evanko	43	Chief Executive Officer, President and Chief Financial Officer
Gerald F. (Gerry) Vinci	55	Vice President, Chief Human Resources Officer
Herbert G. (Herb) Hotchkiss	50	Vice President, General Counsel and Secretary

* Included pursuant to Instruction 3 to Item 401(b) of Regulation S-K.

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, since August 29, 2019, has also served as Chief Financial Officer. 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, since October 2016. Prior to that, she held multiple executive positions at Dover Corporation, 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 also serves as a director of Parker-Hannifin Corporation (NYSE: PH).

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, 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. Prior to that, Mr. Vinci was an attorney for Sunoco, Inc.

Herbert G. 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.

PART II

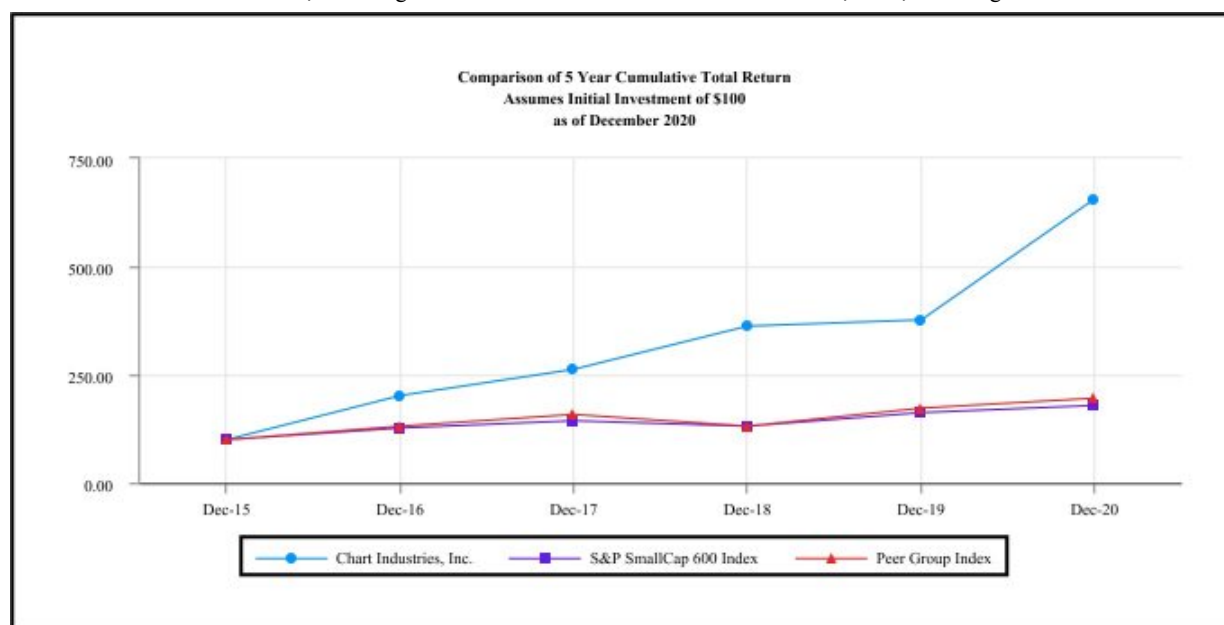
Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Chart's common stock is traded on the New York Stock Exchange under the symbol "GTLS." As of February 1, 2021, there were 154 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.

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 potential acquisitions. The amounts available to us to pay future cash dividends may be restricted by our 2024 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 SmallCap 600 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, 2015, including reinvestment of dividends, if any.



	December 31,					
	2015	2016	2017	2018	2019	2020
Chart Industries, Inc.	\$ 100.00	\$ 200.56	\$ 260.91	\$ 362.08	\$ 375.78	\$ 655.85
S&P SmallCap 600 Index	100.00	126.46	143.09	130.90	160.66	178.72
Peer Group Index	100.00	129.49	157.48	129.74	171.89	194.93

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 Acuity Brands, Inc., Barnes Group Inc., Circor International, Inc., Colfax Corp., Enpro Industries Inc., Esco Technologies Inc., Graco Inc., Harsco Corporation, IDEX Corp., Nordson Corporation, SPX Corporation and Worthington Industries, Inc.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Period	Issuer Purchases of Equity Securities			
	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 ⁽²⁾
October 1 — 31, 2020	1,142	\$ 72.01	—	\$ —
November 1 — 30, 2020	34	84.45	—	—
December 1 — 31, 2020	151	113.09	—	—
Total	1,327	\$ 77.00	—	\$ —

⁽¹⁾ Includes shares of common stock surrendered to us during the fourth quarter of 2020 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 \$102,200. 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, 2020.

⁽²⁾ On March 11, 2020, our Board of Directors authorized a share repurchase program for up to \$75 million of the Company's common stock over the next twelve months 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. We suspended the program on March 20, 2020 in light of uncertainty resulting from the Covid-19 pandemic and the desire to conserve cash resources.

Item 6. Selected Financial Data

The following table sets forth selected historical consolidated financial information as of the dates and for each of the periods indicated. We selected historical financial consolidated data as of and for the years ended December 31, 2020, 2019 and 2018 derived from our audited financial statements for such periods incorporated by reference into Item 8 of this Annual Report on Form 10-K, which have been audited by Deloitte & Touche, LLP for the years ended December 31, 2020 and 2019 and Ernst & Young LLP for the year ended December 31, 2018. This selected financial data has been modified in order to conform to the discontinued operations presentation as further discussed in our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K.

The following table should be read together with Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included under Item 15. “Exhibits and Financial Statement Schedules” of this Annual Report on Form 10-K (all dollar amounts in millions, except per share data):

	Year Ended December 31,				
	2020	2019	2018	2017	2016
Statements of Operations Data:					
Sales ^{(1) (2) (3)}	\$ 1,177.1	\$ 1,215.5	\$ 1,003.9	\$ 765.9	\$ 651.4
Cost of sales ⁽⁴⁾	845.0	918.0	744.8	574.5	476.2
Gross profit	332.1	297.5	259.1	191.4	175.2
Operating expenses ^{(5) (6) (7) (8)}	223.9	245.5	194.6	185.0	158.6
Asset impairments ⁽⁹⁾	16.0	—	—	—	1.2
Operating income ^{(1) (2) (3)}	92.2	52.0	64.5	6.4	15.4
Interest expense, net (including deferred financing costs amortization)	22.0	17.7	22.7	17.6	15.7
Gain on bargain purchase	(5.0)	—	—	—	—
Loss on extinguishment of debt ⁽¹⁰⁾	—	—	—	4.9	—
Unrealized (gain) loss on investment in equity securities	(13.1)	0.1	—	—	—
Foreign currency loss (gain)	0.9	(0.4)	0.1	(2.9)	(6.5)
Other expense	2.2	—	—	—	—
Other expense, net	7.0	17.4	22.8	19.6	9.2
Income (loss) before income taxes	85.2	34.6	41.7	(13.2)	6.2
Income tax expense (benefit), net ⁽¹¹⁾	14.9	2.8	7.2	(27.9)	1.8
Net income (loss) from continuing operations	70.3	31.8	34.5	14.7	4.4
Income from discontinued operations, net of tax ⁽¹²⁾	239.2	15.0	55.5	14.8	20.3
Net income	309.5	46.8	90.0	29.5	24.7
Less: Income (loss) attributable to noncontrolling interests, net of taxes	1.4	0.4	2.0	1.5	(3.5)
Net income attributable to Chart Industries, Inc.	\$ 308.1	\$ 46.4	\$ 88.0	\$ 28.0	\$ 28.2

	Year Ended December 31,				
	2020	2019	2018	2017	2016
Earnings Per Share Data:					
Basic earnings per common share attributable to Chart Industries, Inc.					
Income from continuing operations	\$ 1.95	\$ 0.93	\$ 1.05	\$ 0.43	\$ 0.26
Income from discontinued operations	6.76	0.44	1.78	0.48	0.66
Net income attributable to Chart Industries, Inc.	\$ 8.71	\$ 1.37	\$ 2.83	\$ 0.91	\$ 0.92
Diluted earnings per common share attributable to Chart Industries, Inc.					
Income from continuing operations	\$ 1.89	\$ 0.89	\$ 1.01	\$ 0.42	\$ 0.26
Income from discontinued operations	6.56	0.43	1.72	0.47	0.65
Net income attributable to Chart Industries, Inc.	\$ 8.45	\$ 1.32	\$ 2.73	\$ 0.89	\$ 0.91
Weighted-average shares — basic	35.38	33.91	31.05	30.74	30.58
Weighted-average shares — diluted	36.45	35.17	32.20	31.34	30.98

Cash Flow Data:

Cash provided by operating activities	\$ 172.7	\$ 133.9	\$ 88.8	\$ 47.0	\$ 170.8
Cash provided by (used in) investing activities	185.0	(642.7)	(127.9)	(480.0)	(18.1)
Cash (used in) provided by financing activities	(363.4)	511.6	38.2	275.2	7.7
Cash provided by discontinued operations	335.0	15.7	120.5	0.5	0.4

Other Financial Data:

Depreciation and amortization, including deferred financing costs amortization ⁽¹³⁾	\$ 88.8	\$ 80.7	\$ 51.0	\$ 36.3	\$ 31.6
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	As of December 31,				
	2020	2019	2018	2017	2016
Balance Sheet Data:					
Cash and cash equivalents	\$ 125.1	\$ 119.0	\$ 117.4	\$ 122.6	\$ 281.8
Working capital ⁽¹⁴⁾	164.0	192.6	160.6	171.0	51.0
Goodwill	865.9	811.4	487.2	426.2	175.4
Identifiable intangible assets, net	493.1	522.4	323.7	279.6	67.5
Total assets ^{(15) (16) (17)}	2,570.5	2,481.4	1,826.0	1,656.7	1,164.4
Long-term debt	221.6	761.0	533.2	439.2	233.7
Total debt ^{(18) (19)}	442.5	777.3	544.4	498.1	240.2
Chart Industries, Inc. shareholders' equity	1,572.7	1,227.6	820.3	764.0	639.5

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- (1) Includes sales and operating (loss) income for AXC included in the Heat Transfer Systems segment results since the acquisition date, July 1, 2019 as follows:
 - Sales were \$80.5 and \$103.1 for the years ended December 31, 2020 and 2019, respectively, and
 - Operating (loss) income was \$(24.2) and \$4.6 for the years ended December 31, 2020 and 2019, which included \$27.2 and \$18.4 of combined depreciation and amortization expense, respectively.
 - (2) Includes sales and operating (loss) income for VRV in the Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing segments results since the acquisition date, November 15, 2018 as follows:
 - Sales were \$104.0 (Cryo Tank Solutions: \$53.2, Heat Transfer Systems: \$43.6, Specialty Products: \$4.2, Repair, Service & Leasing: \$3.0) for the year ended December 31, 2019,
 - Sales were \$14.1 (Cryo Tank Solutions: \$9.3, Heat Transfer Systems: \$3.2, Specialty Products: \$0.6, Repair, Service & Leasing: \$1.0) for the year ended December 31, 2018,
 - Operating income (loss) was \$11.2 (Cryo Tank Solutions: \$8.7, Heat Transfer Systems: \$1.9, Specialty Products: \$(0.5), Repair, Service & Leasing: \$1.1) for the year ended December 31, 2019, and
 - Operating (loss) income was \$2.1 (Cryo Tank Solutions: \$0.3, Heat Transfer Systems: \$2.4, Specialty Products: \$(0.2), Repair, Service & Leasing: \$(0.4)) for the year ended December 31, 2018, which included \$1.5 of depreciation and amortization expense and \$1.6 in expense recognized in the cost of sales related to inventory step-up.
 - (3) Includes sales and operating income for Hudson in the Heat Transfer Systems segment results since the acquisition date, September 20, 2017 as follows:
 - Sales were \$180.3 and \$58.0 for the years ended December 31, 2018 and 2017, respectively, and
 - Operating income was \$19.0 and \$6.4 for the years ended December 31, 2018 and 2017, respectively.
 - (4) Cost of sales includes restructuring costs of \$5.7, \$12.2, \$0.8, \$2.7 and \$3.5 for the years ended December 31, 2020, 2019, 2018, 2017 and 2016, respectively.
 - (5) Operating expenses include selling, general and administrative expenses and amortization expense. Amortization expense related to intangible assets was \$45.7, \$39.8, \$21.9 \$12.0 and \$8.4 for the years ended December 31, 2020, 2019, 2018, 2017, and 2016, respectively.
 - (6) Operating income includes restructuring costs of \$13.6, \$15.6, \$4.3, \$11.2 and \$9.5 for the years ended December 31, 2020, 2019, 2018, 2017 and 2016, respectively.
 - (7) Includes transaction-related costs of \$2.6, \$5.4, \$2.1, \$10.1 and \$0.4 for the years ended December 31, 2020, 2019, 2018, 2017 and 2016, respectively.
 - (8) Includes transaction-related costs of \$4.3 and \$0.8 related to integration activities for previous acquisitions for the years ended December 31, 2019 and 2018, respectively.
 - (9) Includes \$16.0 impairment of our trademarks and trade names indefinite-lived intangible assets related to the AXC business in our Heat Transfer Systems segment.
 - (10) During the year ended December 31, 2017 we recorded a \$4.9 loss on extinguishment of debt associated with the repurchase of \$192.9 principal amount of our \$250.0 2.0% convertible notes due August 2018 and refinance of our senior secured credit facility.
 - (11) Includes a one-time \$22.5 net favorable tax benefit for the year ended December 31, 2017, which resulted from the enactment of the Tax Cuts and Jobs Act.
 - (12) Includes gain on sale of the cryobiological products business of \$224.2, net of taxes of \$25.2 for the year ended December 31, 2020 and includes gain on sale of the CAIRE business of \$34.3, net of taxes of \$2.6, for the year ended December 31, 2018.
 - (13) Includes deferred financing costs amortization of \$4.3 and \$3.0 for the years ended December 31, 2020 and 2019 and \$1.3 for each of the remaining years.
 - (14) Working capital is defined as current assets excluding cash and cash equivalents minus current liabilities excluding short-term debt and current portion of long-term debt (including current convertible notes, if applicable).
 - (15) Total assets at December 31, 2019 included \$593.8 related to AXC of which \$287.5 and \$256.4 represented acquired goodwill and identifiable intangible assets, net, respectively. For further information, see Note 13, "Business Combinations," in the consolidated financial statements located elsewhere in this report.
 - (16) Total assets at December 31, 2018 included \$327.8 related to VRV of which \$64.0 and \$66.4 represented acquired goodwill and identifiable intangible assets, net, respectively.
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- (17) Total assets at December 31, 2017 included \$572.8 related to Hudson of which \$238.3 and \$207.7 represented acquired goodwill and identifiable intangible assets, net, respectively.
- (18) Total debt at December 31, 2020 includes \$220.9 convertible notes due November 2024, net of unamortized discount and debt issuance costs and \$221.6 senior secured revolving credit facility and term loan, net of debt issuance costs. At December 31, 2020 current maturities were \$220.9, which represents our convertible notes due November 2024.
- (19) Total debt at December 31, 2019 includes \$212.2 convertible notes due November 2024, net of unamortized discount and debt issuance costs, \$560.7 senior secured revolving credit facility and term loan, net of debt issuance costs and \$4.4 foreign facilities. At December 31, 2019 current maturities were \$16.3.

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 the "Selected Financial Data" section and 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

We are a leading independent global manufacturer of highly engineered equipment servicing multiple applications in the Energy and Industrial Gas markets. Our unique product portfolio is used in every phase of the liquid gas supply chain, including upfront engineering, service and repair. Being at the forefront of the clean energy transition, Chart is a leading provider of technology, equipment and services related to liquefied natural gas, hydrogen, biogas and CO₂ Capture amongst other applications. We are committed to excellence in environmental, social and corporate governance (ESG) issues both for our company as well as our customers. With over 25 global locations 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.

Covid-19 Update

While the outbreak and continued uncertainty associated with the coronavirus (Covid-19) did not have a material adverse effect on our reported results for 2020, we continue to actively monitor the impact of the Covid-19 outbreak on our results of operations for 2021 and beyond. The extent to which our operations will be impacted by the outbreak will largely depend on future developments, which are highly uncertain and cannot be accurately predicted, including new information which may emerge concerning the severity, or reemergence, of the outbreak and actions by government authorities to contain the outbreak or treat its impact, among other things.

In terms of macro drivers, Covid-19 has sparked an emphasis on health and clean energy transformation, in many cases, accelerating efforts and incenting governments to think through investments in renewable energy sources and storage, including hydrogen, carbon capture, biogas/biomethane and LNG. We continue to expand our footprint in these varied clean energy spaces as highlighted by our recent increased investments in hydrogen-related and emissions reductions businesses. Governments have been responding on a massive scale with stimulus packages, many of which are targeted to kick starting or further progressing the transition to clean energy and to achieve their climate targets.

Cryobiological Divestiture

On October 1, 2020, we closed on the sale of our cryobiological products business, which was formerly within our D&S West segment prior to the realignment of our segment reporting structuring in the fourth quarter of 2020, as further discussed in the following paragraph, to Cryoport, Inc. (NASDAQ: CYRX) for net cash proceeds of \$317.5 million, inclusive of the base purchase price of \$320.0 million less estimated closing adjustments of \$2.5 million (the "Cryobiological Divestiture"). The strategic decision to divest of our cryobiological products business reflects our strategy and capital allocation approach to focus on our core capabilities and offerings. We recorded a gain, net of taxes on the Cryobiological Divestiture of \$224.2 million for the year ended December 31, 2020.

Reorganization of Reportable Segments

As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2019, the structure of our internal organization was divided into the following reportable segments, which were also our operating segments: D&S East, D&S West, E&C Cryogenics and E&C FinFans. Effective October 1, 2020, we changed our reportable segments to the following four reportable segments, which are also our operating segments: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing. 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.

The financial information presented and discussion of results that follows is presented on a continuing operations basis. All prior period amounts presented below have been reclassified based on our current reportable segments.

2020 Highlights

Being at the forefront of the clean energy transition, Chart is a leading provider of technology, equipment and services related to liquefied natural gas, hydrogen, biogas and CO₂ Capture amongst other applications. We saw record backlog in our Cryo Tank Solutions and Specialty Products segments of \$222.6 million and \$199.7 million at December 31, 2020,

respectively. Total backlog as of December 31, 2020 and 2019 was \$810.0 million and \$751.2 million, respectively. Our backlog as of December 31, 2020 was inclusive of \$21.0 million of backlog remaining on the Venture Global Calcasieu Pass LNG export terminal project order (“Calcasieu Pass”), compared to \$117.6 million of Calcasieu Pass remaining as of December 31, 2019. Excluding Calcasieu Pass, backlog increased by \$155.4 million or 24.5% in 2020 compared to 2019. Orders of \$279.2 million and \$196.8 million for our Specialty Products and Repair, Service & Leasing segments, respectively, were records in 2020 based on favorable HLNG vehicle tank and hydrogen equipment orders and full lifecycle and leasing services. Operating Income was a record in each of our four segments. Furthermore, as a percentage of sales, operating income was a record in each of our four segments primarily driven by ongoing cost structure improvement across the global organization. Further driving our strategy, we executed on three acquisitions and two investments during 2020, which are discussed below:

Sustainable Energy Solutions, Inc. Acquisition: On December 23, 2020, we completed the acquisition of Sustainable Energy Solutions, Inc. (“SES”). SES’s Cryogenic Carbon Capture™ (CCC) technology eliminates most emissions from fossil fuels while enabling better use of intermittent renewables through grid-scale energy storage. The stock purchase was completed for a closing purchase price of \$20.0 million in cash at closing, subject to a post-closing working capital adjustment, plus a potential earn-out not to exceed \$25.0 million in the aggregate.

BlueInGreen, LLC Acquisition: On November 3, 2020, we completed the acquisition of BlueInGreen, LLC (“BIG”), a leading dissolved-gas expert providing custom-engineered solutions for water treatment and industrial process applications that delivers tangible economic, social and environmental value. The stock purchase was completed for a purchase price of \$20.0 million in cash at closing (subject to customary adjustments), plus a potential earn-out not to exceed \$6.0 million in the aggregate.

Alabama Trailers Acquisition: On October 13, 2020, we completed the acquisition of the Theodore, Alabama cryogenic trailer and hydrogen trailer (transport) assets of Worthington Industries, Inc. (NYSE: WOR) for \$10.0 million in cash (“Alabama Trailers”). Alabama Trailers designs, manufactures and sells cryogenic trailers and hydrogen trailers used in industrial gas and energy applications. This acquisition will produce strong synergies by combining Chart’s deep knowledge of cryogenics and liquid hydrogen storage and handling with Alabama Trailers’ expertise and experience in the packaging and assembly of liquid hydrogen trailers. As a result of the acquisition, we recorded a bargain purchase gain of \$5.0 million.

HTEC Investment: During the fourth quarter of 2020, we completed an investment in HTEC Hydrogen Technology & Energy Corporation (“HTEC”) in the amount of CAD20 million (\$15.7 million) for 15.6% of its capital stock on a fully-diluted basis. HTEC designs, builds, and operates hydrogen fuel supply solutions to support the deployment of hydrogen fuel cell electric vehicles. It has significant hydrogen development experience in the Canadian market, with signed contracts for numerous projects across the country.

McPhy Investment: Also during the fourth quarter of 2020, we made an investment in McPhy (Euronext Paris: MCPHY – ISIN: FR0011742329) by subscribing to 1,276,595 shares for 30 million euros (\$35.1 million). As of December 31, 2020, we hold 4.6% of the capital of McPhy and the value of the investment was \$53.8 million, which reflects a \$17.0 million unrealized gain upon conversion and subsequent mark-to-market. Gains and losses for this investment in equity securities were recorded in other expenses, net on the consolidated statement of income and comprehensive income during the year ended December 31, 2020.

Outlook

Our 2021 full year outlook reflects execution on the clean energy transition including recovery in air cooled heat exchangers related to growth in CO2 Capture applications, small scale LNG opportunities and growth in our Specialty Products business, especially in water treatment, over the road trucking and hydrogen applications. We will continue to evaluate opportunities to redeploy capital from the Cryobiological Divestiture into clean energy applications. As such, on February 2, 2021, we completed a \$15 million investment in Svante Inc. and signed a commercial carbon capture memorandum of understanding to explore commercial opportunities as a channel to market preferred partners and collaborate to develop an integrated carbon capture solution using Svante’s rapid adsorption technology and Chart’s cryogenic carbon capture technology to make high-purity CO2 products from industrial flue gas streams. On February 16, 2021, we completed the acquisition of Cryogenic Gas Technologies, Inc. (“Cryo Technologies”) for approximately \$55 million in cash (subject to certain customary adjustments). Cryo Technologies is a global leader in custom engineered process systems to separate, purify, refrigerate, liquefy and distribute high value industrial gases such as hydrogen, helium, argon and hydrocarbons with design capabilities for cold boxes for hydrogen and helium use. The distribution systems Cryo Technologies supplies are located within the helium and hydrogen liquefaction facilities and are inclusive of trailer loading systems, which facilitates the first step in product distribution. Our 2021 sales outlook is inclusive of \$21 million of Venture Global’s Calcasieu Pass revenue in the first quarter of 2021 as well as \$30 million of 2021 revenue from the acquisition of Cryo Technologies. There is no additional Big LNG

revenue included in our outlook although we believe new orders will be received during the year. We continue to invest in our automation, process improvement, and productivity activities across Chart, with total anticipated 2021 capital expenditures spend of \$40.0 million to \$50.0 million.

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, 2020, 2019 and 2018 (dollars in millions):

	2020	2019	2018
Sales	100.0 %	100.0 %	100.0 %
Cost of sales ⁽¹⁾	71.8	75.5	74.2
Gross profit	28.2	24.5	25.8
Selling, general and administrative expenses ^{(2) - (5)}	15.1	16.9	17.2
Amortization expense	3.9	3.3	2.2
Asset impairments ⁽⁶⁾	1.4	—	—
Operating income	7.8	4.3	6.4
Interest expense, net ⁽⁷⁾⁽⁸⁾	1.5	1.2	2.1
Gain on bargain purchase	(0.4)	—	—
Unrealized gain on investment in equity securities	(1.1)	—	—
Financing costs amortization	0.4	0.2	0.1
Foreign currency loss	0.1	—	—
Other expense	0.2	—	—
Income tax expense, net	1.3	0.2	0.7
Net income from continuing operations	6.0	2.6	3.4
Income from discontinued operations, net of tax	20.3	1.2	5.5
Net income	26.3	3.9	9.0
Income attributable to noncontrolling interests, net of taxes	0.1	—	0.2
Net income attributable to Chart Industries, Inc.	26.2	3.8	8.8

⁽¹⁾ Cost of sales includes restructuring costs of \$5.7, \$12.2 and \$0.8 for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽²⁾ Selling, general and administrative expenses includes restructuring costs of \$7.9, \$3.4 and \$3.5 for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽³⁾ Includes transaction-related costs of \$2.6, \$5.4 and \$2.1 for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽⁴⁾ Includes transaction-related costs of \$4.3 and \$0.8 related to integration activities for previous acquisitions for the years ended December 31, 2019 and 2018, respectively.

⁽⁵⁾ Includes share-based compensation expense of \$8.6, \$8.8 and \$4.6, representing 0.7%, 0.7% and 0.5% of sales, for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽⁶⁾ Includes \$16.0 impairment of our trademarks and trade names indefinite-lived intangible assets related to the AXC business in our Heat Transfer Systems segment.

⁽⁷⁾ Includes \$8.0, \$7.6 and \$7.2 of non-cash interest accretion expense related to the carrying amount of the 1.00% Convertible Senior Subordinated Notes due November 2024 (the “2024 Notes”), representing 0.7%, 0.6% and 0.7% of sales for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽⁸⁾ Includes \$1.9 of non-cash interest accretion expense related to the carrying amount of the 2.00% Convertible Senior Subordinated Notes due August 2018 (the “2018 Notes”), representing 0.2% of sales, for the year ended December 31, 2018.

Consolidated Results for the Years Ended December 31, 2020, 2019 and 2018

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, 2020, 2019 and 2018 (dollars 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,		
	2020	2019	2018
Sales			
Cryo Tank Solutions	\$ 415.8	\$ 409.9	\$ 371.4
Heat Transfer Systems	369.8	441.7	289.8
Specialty Products	242.6	207.9	184.5
Repair, Service & Leasing	158.3	162.6	160.4
Intersegment eliminations	(9.4)	(6.6)	(2.2)
Consolidated	<u>\$ 1,177.1</u>	<u>\$ 1,215.5</u>	<u>\$ 1,003.9</u>
Gross Profit			
Cryo Tank Solutions	\$ 99.5	\$ 77.2	\$ 87.3
Heat Transfer Systems	93.7	94.1	56.1
Specialty Products	84.3	72.2	68.5
Repair, Service & Leasing	54.6	54.0	47.2
Consolidated	<u>\$ 332.1</u>	<u>\$ 297.5</u>	<u>\$ 259.1</u>
Gross Profit Margin			
Cryo Tank Solutions	23.9 %	18.8 %	23.5 %
Heat Transfer Systems	25.3 %	21.3 %	19.4 %
Specialty Products	34.7 %	34.7 %	37.1 %
Repair, Service & Leasing	34.5 %	33.2 %	29.4 %
Consolidated	28.2 %	24.5 %	25.8 %
SG&A Expenses			
Cryo Tank Solutions	\$ 41.7	\$ 45.9	\$ 42.6
Heat Transfer Systems	36.6	51.4	36.8
Specialty Products	22.2	22.4	22.0
Repair, Service & Leasing	15.3	18.6	20.1
Corporate	62.4	67.4	51.2
Consolidated	<u>\$ 178.2</u>	<u>\$ 205.7</u>	<u>\$ 172.7</u>
SG&A Expenses (% of Sales)			
Cryo Tank Solutions	10.0 %	11.2 %	11.5 %
Heat Transfer Systems	9.9 %	11.6 %	12.7 %
Specialty Products	9.2 %	10.8 %	11.9 %
Repair, Service & Leasing	9.7 %	11.4 %	12.5 %
Consolidated	15.1 %	16.9 %	17.2 %
Operating Income (Loss) ⁽¹⁾			
Cryo Tank Solutions	\$ 52.5	\$ 25.7	\$ 41.1
Heat Transfer Systems ⁽²⁾	11.2	17.7	8.7
Specialty Products	60.7	48.1	44.8
Repair, Service & Leasing	30.3	27.9	21.2
Corporate ⁽³⁾⁽⁴⁾	(62.5)	(67.4)	(51.3)
Consolidated	<u>\$ 92.2</u>	<u>\$ 52.0</u>	<u>\$ 64.5</u>

Operating Margin

Cryo Tank Solutions	12.6 %	6.3 %	11.1 %
Heat Transfer Systems	3.0 %	4.0 %	3.0 %
Specialty Products	25.0 %	23.1 %	24.3 %
Repair, Service & Leasing	19.1 %	17.2 %	13.2 %
Consolidated	7.8 %	4.3 %	6.4 %

(1) Restructuring costs (credits) for the years ended:

- December 31, 2020 were \$13.6 (\$2.7 – Cryo Tank Solutions, \$7.4 – Heat Transfer Systems, \$0.7 – Specialty Products, \$0.2 – Repair, Service & Leasing and \$2.6 – Corporate);
- December 31, 2019 were \$15.6 (\$9.1 – Cryo Tank Solutions, \$4.5 – Heat Transfer Systems, \$0.3 – Specialty Products, \$1.5 – Repair, Service & Leasing and \$0.2 – Corporate); and
- December 31, 2018 were \$4.3 (\$1.7 – Cryo Tank Solutions, \$0.7 – Heat Transfer Systems, \$(0.3) – Specialty Products, \$(0.1) – Repair, Service & Leasing and \$2.3 – Corporate).

(2) Includes \$16.0 impairment of our trademarks and trade names indefinite-lived intangible assets related to the AXC business in our Heat Transfer Systems segment.

(3) Includes transaction-related costs of \$2.6, \$5.4 and \$2.1 for the years ended December 31, 2020, 2019 and 2018 respectively.

(4) Includes transaction related costs of \$4.3 and \$0.8 related to integration activities for previous acquisitions for the years ended December 31, 2019 and 2018, respectively.

Results of Operations for the Years Ended December 31, 2020 and 2019

Sales in 2020 decreased by \$38.4 million from \$1,215.5 million to \$1,177.1 million, or 3.2%. Heat Transfer Systems segment sales decreased by \$71.9 million during 2020 as compared to 2019 primarily due to an industry-wide softness in demand for midstream and upstream compression equipment. This decrease with the Heat Transfer Systems segment was partially offset by revenue contributions from the continued execution of our backlog on big LNG, including Venture Global's Calcasieu Pass LNG export terminal project and other petrochemical applications and our Specialty Products segment where sales increased by \$34.7 million as compared to 2019 primarily driven by favorable sales in hydrogen equipment and HLNG vehicle tanks.

Gross profit in 2020 increased by \$34.6 million from \$297.5 million to \$332.1 million, or 11.6% compared to 2019. Gross profit as a percentage of sales increased within each of our four segments in 2020 as compared to 2019 primarily as a result of ongoing cost structure improvement across the global organization, the impact of higher restructuring costs in 2019 within our Cryo Tank Solutions segment and product mix, especially where Venture Global's Calcasieu Pass LNG export terminal project drove higher margins in our Heat Transfer Systems segment.

SG&A expenses decreased by \$27.5 million, or 13.4% in 2020 compared to 2019 across multiple SG&A categories primarily as a result of cost reduction initiatives. During 2020, we implemented certain cost reduction actions across all segments and corporate to appropriately size our workforce with demand as well as eliminate redundant work. Costs were primarily related to headcount reductions. These actions resulted in total restructuring costs of \$13.6 million for the year ended December 31, 2020, consisting of mainly employee severance costs. As previously reported, on July 17, 2020, we announced internally our intention to transfer operations of our heat exchanger leased facility in Tulsa, Oklahoma to our Beasley, Texas location at which we own 260 acres of land. This was a cost reduction measure within our Heat Transfer Systems segment to structure the business for profitable growth in equipment for midstream and upstream energy applications. Total costs related to this action are expected to be approximately \$9.0 million, of which \$2.7 million has been spent year to date, associated with severance, relocation and moving expenses. We expect this project to be completed by June 30, 2021. We are closely monitoring our end markets and order rates and will continue to take appropriate and timely actions as necessary.

During 2019, we implemented certain cost reduction or avoidance actions, including facility consolidations at certain of our U.S. properties, and a streamlining of the commercial activities surrounding our Lifecycle business in our Repair, Service & Leasing segment, geographic realignment of our manufacturing capacity and a facility closure in Asia, as well as departmental restructuring, including headcount reductions in each of our four segments. These actions resulted in total restructuring costs of \$15.6 million, consisting of employee severance costs, disposals of property, plant and equipment and other costs. Restructuring costs for 2019 reflect a \$1.6 million credit to Repair, Service & Leasing segment restructuring costs recorded in the second quarter of 2019 due to the successful negotiation of a lease termination for a facility for our previous Lifecycle business. These restructuring activities were substantially completed by the end of 2019.

Impairment of Intangible assets

We recorded an impairment loss of \$16.0 million during 2020 relative to our \$55.0 million trademarks and trade names indefinite-lived intangible asset of our AXC business (“AXC Intangible Asset”) in our Heat Transfer Systems segment. Industry-wide softness in demand for midstream and upstream compression equipment represented impairment indicators requiring us to re-evaluate the fair value of the AXC Intangible Asset. We determined the fair value of the AXC Intangible Asset under the relief-from-royalty method and conducted an impairment test as defined in the Application of Critical Accounting Policies section. We determined that the fair value of the AXC Intangible Asset was \$39.0 million and impaired the AXC Intangible Asset by a value equal to the difference in the carrying amount and calculated fair value.

Interest Expense, Net and Financing Costs Amortization

Net interest expense for the year ended December 31, 2020 and 2019 was \$17.7 million and \$14.7 million, respectively. Interest expense for the year ended December 31, 2020 included \$2.6 million of 1.0% cash interest and \$8.0 million of non-cash interest accretion expense related to the carrying value of the convertible notes due 2024, and \$7.0 million in interest related to borrowings on our previous and current senior secured revolving credit facility and term loan. For 2020 and 2019, financing costs amortization was \$4.3 million and \$3.0 million, respectively. The increase of \$1.3 million was primarily due to recognition of a full year of financing costs amortization related to the term loan in 2020 as compared to six months of financing costs amortization recognized in 2019.

Foreign Currency Loss (Gain)

For 2020 foreign currency losses were \$0.9 million as compared to foreign currency gains of \$0.4 million for 2019. Losses increased by \$1.3 million during 2020 due to exchange rate volatility, especially with respect to the euro and Chinese yuan.

Gain on Bargain Purchase

As a result of the Alabama Trailers acquisition, we recorded a bargain purchase gain of \$5.0 million.

Unrealized (Gain) Loss on Investment in Equity Securities

The unrealized gain on investment in equity securities was \$13.1 million in 2020 as compared to the unrealized loss on investment in equity securities of \$0.1 million in 2019. Gains increased by \$13.2 million primarily due to an \$17.0 million unrealized gain on the mark-to-market adjustment of our investment in McPhy (Euronext Paris: MCPHY – ISIN; FR0011742329), partially offset by a \$2.9 million unrealized loss on the mark-to-market adjustment of our investment in Stabilis.

Income Tax Expense (Benefit)

Income tax expense of \$14.9 million and expense of \$2.8 million for the years ended December 31, 2020 and 2019 represents taxes on both U.S. and foreign earnings at a combined effective income tax rate of 17.5% and 8.1%, respectively. The effective income tax rate of 17.5% for the year ended December 31, 2020 differed from the U.S. federal statutory rate of 21% primarily due to tax benefits associated with share-based compensation and the Alabama Trailers bargain purchase gain offset by the effect of income earned by certain of our foreign entities being taxed at higher rates than the federal statutory rate as well as losses incurred by certain of our Chinese operations for which no benefit was recorded.

The effective income tax rate of 8.1% for the year ended December 31, 2019 differed from the U.S. federal statutory rate of 21% primarily due to tax benefits related to certain share-based compensation, partially offset by the effect of income earned by certain of our foreign entities being taxed at higher rates than the federal statutory rate as well as losses incurred by certain of our Chinese operations for which no benefit was recorded.

Net Income from Continuing Operations

As a result of the foregoing, net income from continuing operations attributable to Chart was \$68.9 million and \$31.4 million for 2020 and 2019, respectively.

Discontinued Operations

The financial results of our cryobiological products business formerly reported in our D&S West segment and financial results from our oxygen-related products business formerly reported in our BioMedical segment are reflected in our consolidated financial statements as discontinued operations for all periods presented. For further information, refer to Note 3, "Discontinued Operations."

Results of Operations for the Years Ended December 31, 2019 and 2018

Sales in 2019 increased by \$211.6 million from \$1,003.9 million to \$1,215.5 million, or 21.1% (1.9% organically), with increases across all segments as compared to 2018. AXC sales of \$103.1 million are included in the Heat Transfer Systems segment results since the July 1, 2019 acquisition date. Sales for VRV in 2019, included in Cryo Tank Solutions, Heat Transfer Systems and Specialty segments' results since the November 15, 2018 acquisition date were \$104.0 million (Cryo Tank Solutions: \$53.2 million, Heat Transfer Systems: \$43.6 million, Specialty Products: \$4.2 million, Repair, Service & Leasing: \$3.0 million) as compared to \$14.1 million (Cryo Tank Solutions: \$9.3 million, Heat Transfer Systems: \$3.2 million, Specialty Products: \$0.6 million, Repair, Service & Leasing: \$1.0 million) in 2018. Excluding the impact of AXC and VRV, sales growth was primarily driven by axial flow fans sales in our Heat Transfer Systems segment and an increase in HLNG vehicle tank sales within our Specialty Products segment.

Gross profit in 2019 increased by \$38.4 million or 14.8% (0.7% organically) compared to 2018. AXC gross profit of \$29.2 million is included in 2019, and gross profit for VRV was \$8.5 million and \$1.0 million in 2019 and 2018, respectively. Excluding AXC and VRV, gross profit increased by \$1.7 million. Gross profit included restructuring costs of \$12.2 million and \$0.8 million for the year ended December 31, 2019 and 2018, respectively, which during 2019 were related to cost reduction or avoidance actions, including facility consolidations across the global organization and a streamlining of the commercial activities surrounding our after-market services business in our Repair, Service & Leasing segment, geographic realignment of our manufacturing capacity and a facility closure in China, as well as departmental restructuring, including headcount reductions in each of our segments. Excluding the impact of the AXC and VRV acquisitions and restructuring costs, gross profit increased by \$13.1 million. Gross margin as a percent of sales was 24.5% for the year ended December 31, 2019 which decreased from 25.8% in 2018. Excluding the impact of the AXC and VRV acquisitions and restructuring costs, gross margin as a percent of sales was 27.0% for the year ended December 31, 2019 which increased from 26.2% in the same period in 2018.

SG&A expenses increased by \$33.0 million (\$10.3 million organically), or 19.1% (6.0% organically) in 2019 compared to 2018. SG&A expenses for AXC were \$7.8 million in 2019. Furthermore, SG&A expenses for VRV were \$16.9 million and \$2.0 million for 2019 and 2018, respectively. Excluding the impact of AXC and VRV, SG&A expenses were 17.9% of sales for the year ended December 31, 2019 compared to 17.2% for the year ended December 31, 2018. This increase in SG&A expenses as a percentage of sales was primarily driven by Corporate SG&A expenses, which increased by \$16.2 million during 2019 as compared to 2018 primarily due to \$7.3 million in transaction-related costs, \$4.3 million in integration costs related to acquisitions and an increase in share-based compensation expense partially offset by a decrease in employee-related costs.

Interest Expense, Net and Financing Costs Amortization

Net interest expense for the year ended December 31, 2019 and 2018 was \$14.7 million and \$21.4 million, respectively. Interest expense for the year ended December 31, 2019 included \$2.6 million of 1.0% cash interest and \$7.6 million of non-cash interest accretion expense related to the carrying value of the convertible notes due 2024, and \$5.3 million in interest related to borrowings on our previous and current senior secured revolving credit facility and term loan. For 2019 and 2018, financing costs amortization was \$3.0 million and \$1.3 million, respectively. The increase of \$1.7 million was primarily due to higher financing costs amortization as a result of debt restructuring actions in 2019.

Foreign Currency (Gain) Loss

For 2019, foreign currency gains were \$0.4 million as compared to foreign currency losses of \$0.1 million for 2018. Gains increased by \$0.5 million during 2019 due to exchange rate volatility, especially with respect to the euro and Chinese yuan.

Income Tax (Benefit) Expense

Income tax expense of \$2.8 million and expense of \$7.2 million for the years ended December 31, 2019 and 2018 represents taxes on both U.S. and foreign earnings at a combined effective income tax rate of 8.1% and 17.3%, respectively. The effective income tax rate of 8.1% for the year ended December 31, 2019 differed from the U.S. federal statutory rate of 21% primarily due to tax benefits associated with share-based compensation and a reduction in our state tax rate partially offset by the effect of income earned by certain of our foreign entities being taxed at higher rates than the federal statutory rate as well as losses incurred by certain of our Chinese operations for which no benefit was recorded.

The effective income tax rate of 17.3% for the year ended December 31, 2018 differed from the U.S. federal statutory rate of 21% primarily due to tax benefits related to certain share-based compensation, partially offset by the effect of income earned by certain of our foreign entities being taxed at higher rates than the federal statutory rate as well as losses incurred by certain of our Chinese operations for which no benefit was recorded.

Net Income from Continuing Operations

As a result of the foregoing, net income from continuing operations attributable to Chart was \$31.4 million and \$32.5 million for 2019 and 2018, respectively.

Segment Results for the Years Ended December 31, 2020, 2019 and 2018

Our reportable and operational segments include: Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing. Corporate includes operating expenses for executive management, accounting, tax, treasury, corporate development, human resources, information technology, investor relations, legal, internal audit, and risk management. Corporate support functions are not currently allocated to the segments. 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, 2020, 2019 and 2018 (dollars in millions):

Cryo Tank Solutions—Results of Operations for the Years Ended December 31, 2020 and 2019

	Year Ended December 31,		2020 vs. 2019	
	2020	2019	Variance (\$)	Variance (%)
Sales	\$ 415.8	\$ 409.9	\$ 5.9	1.4 %
Gross Profit	99.5	77.2	22.3	28.9 %
Gross Profit Margin	23.9 %	18.8 %		
SG&A Expenses	\$ 41.7	\$ 45.9	\$ (4.2)	(9.2)%
SG&A Expenses (% of Sales)	10.0 %	11.2 %		
Operating Income	\$ 52.5	\$ 25.7	\$ 26.8	104.3 %
Operating Margin	12.6 %	6.3 %		

For the year 2020, Cryo Tank Solutions segment sales increased by \$5.9 million as compared to 2019 primarily due to higher volume in engineered tanks in the U.S. and higher mobile equipment sales in China, partially offset by lower sales in storage equipment in the U.S. mainly driven by business disruptions where certain of our large customers shut down production temporarily due to the Covid-19 pandemic earlier in the year.

For the year 2020, Cryo Tank Solutions segment gross profit increased by \$22.3 million as compared to 2019. This increase in gross profit was mainly attributable to increased volume efficiencies related to our mobile equipment product lines in China and in VRV and one-time restructuring costs in China during 2019. The increase in the related margin percentage was primarily driven by restructuring costs in 2019 and favorable product mix as our Cryo Tank Solutions segment operations in Europe and China gained better leverage on increased volume. This increase was partially offset by unfavorable product mix relative to engineered systems related to our U.S. Cryo Tank Solutions segment operations.

Cryo Tank Solutions SG&A expenses decreased during the year 2020 as compared to 2019 primarily driven by lower employee-related costs as a result of cost reduction actions. Restructuring expenses were \$2.3 million in 2020 as compared to \$1.1 million in 2019. Cryo Tank Solutions SG&A expenses include a \$2.6 million gain on sale of China facility in 2020.

Cryo Tank Solutions—Results of Operations for the Years Ended December 31, 2019 and 2018

	Year Ended December 31,		2019 vs. 2018	
	2019	2018	Variance (\$)	Variance (%)
Sales	\$ 409.9	\$ 371.4	\$ 38.5	10.4 %
Gross Profit	77.2	87.3	(10.1)	(11.6)%
Gross Profit Margin	18.8 %	23.5 %		
SG&A Expenses	\$ 45.9	\$ 42.6	\$ 3.3	7.7 %
SG&A Expenses (% of Sales)	11.2 %	11.5 %		
Operating Income	\$ 25.7	\$ 41.1	\$ (15.4)	(37.5)%
Operating Margin	6.3 %	11.1 %		

For the full year 2019, Cryo Tank Solutions segment sales increased by \$38.5 million compared to 2018. Sales for VRV, included in the Cryo Tank Solutions segment since the acquisition date November 15, 2018, were \$53.2 million and \$9.3 million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of VRV, Cryo Tank Solutions

segment sales decreased by \$5.4 million during 2019, which was primarily driven by lower sales in China largely relative to a decline in LNG and bulk products partially offset by an increase in all product applications in Europe.

During the full year 2019, Cryo Tank Solutions segment gross profit decreased by \$10.1 million as compared to 2018 primarily as a result of higher restructuring costs in 2019 as compared to 2018. Gross profit for VRV included in the Cryo Tank Solutions segment was \$2.6 million and \$1.4 million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of VRV, gross profit decreased by \$11.3 million. Restructuring expenses recognized in cost of sales were \$7.8 million (\$7.6 million excluding VRV) and \$0.5 million for the years ended December 31, 2019 and 2018, respectively. The restructuring charges that negatively impacted the Cryo Tank Solutions segment gross profit and the related margin percentage were primarily due to the closing of two production lines in China.

Cryo Tank Solutions segment SG&A expenses increased by \$3.3 million during 2019 as compared to 2018. SG&A expenses for VRV included in the Cryo Tank Solutions segment were \$8.8 million and \$1.2 million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of VRV, Cryo Tank Solutions segment SG&A expenses decreased by \$4.3 million during 2019, which was primarily driven by lower employee-related costs, mainly in China, due to workforce reductions.

Heat Transfer Systems—Results of Operations for the Years Ended December 31, 2020 and 2019

	Year Ended December 31,		2020 vs. 2019	
	2020	2019	Variance (\$)	Variance (%)
Sales	\$ 369.8	\$ 441.7	\$ (71.9)	(16.3)%
Gross Profit	93.7	94.1	(0.4)	(0.4)%
Gross Profit Margin	25.3 %	21.3 %		
SG&A Expenses	\$ 36.6	\$ 51.4	\$ (14.8)	(28.8)%
SG&A Expenses (% of Sales)	9.9 %	11.6 %		
Operating Income	\$ 11.2	\$ 17.7	\$ (6.5)	(36.7)%
Operating Margin	3.0 %	4.0 %		

Heat Transfer Systems segment sales decreased by \$71.9 million during 2020 as compared to 2019 primarily due to an industry-wide softness in demand for midstream and upstream compression equipment. This decrease was partially offset by revenue contributions from the continued execution of our backlog on big LNG, including Venture Global's Calcasieu Pass LNG export terminal project and other petrochemical applications. As of the beginning of 2020, our previous Cooler Service air cooled heat exchanger facility in Tulsa was closed, and its operations were combined with our AXC operations.

Heat Transfer Systems segment gross profit decreased by \$0.4 million during 2020 compared to 2019 while the related margin increased by 400 basis points. Gross profit as a percentage of sales increased mainly due to mix where Venture Global's Calcasieu Pass LNG export terminal project drove higher margins.

Heat Transfer Systems segment SG&A expenses decreased by \$14.8 million during the year 2020 as compared to 2019 primarily driven by general reductions across most SG&A categories, especially employee-related costs in light of restructuring actions taken during the period.

Heat Transfer Systems operating income decreased by \$6.5 million during the year 2020 as compared to 2019. As discussed in the Consolidated Results section, we recorded an impairment loss of \$16.0 million during 2020 relative to our AXC Intangible Asset. Excluding the impact of the impairment loss, operating income increased by \$9.5 million.

Heat Transfer Systems—Results of Operations for the Years Ended December 31, 2019 and 2018

	Year Ended December 31,		2019 vs. 2018	
	2019	2018	Variance (\$)	Variance (%)
Sales	\$ 441.7	\$ 289.8	\$ 151.9	52.4 %
Gross Profit	94.1	56.1	38.0	67.7 %
Gross Profit Margin	21.3 %	19.4 %		
SG&A Expenses	\$ 51.4	\$ 36.8	\$ 14.6	39.7 %
SG&A Expenses (% of Sales)	11.6 %	12.7 %		
Operating Income	\$ 17.7	\$ 8.7	\$ 9.0	103.4 %
Operating Margin	4.0 %	3.0 %		

Heat Transfer Systems segment sales increased by \$151.9 million during 2019 as compared to 2018. AXC sales, included in the Heat Transfer Systems segment since the acquisition date July 1, 2019 was \$103.1 million for the year ended December 31, 2019. Furthermore sales for VRV, included in the Heat Transfer Systems segment since the acquisition date November 15, 2018, were \$43.6 million and \$3.2 million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of AXC and VRV, Heat Transfer Systems segment sales increased \$8.4 million during 2019, which was primarily driven by higher volume in brazed aluminum heat exchangers and cold box projects.

Heat Transfer Systems segment gross profit increased by \$38.0 million during 2019 as compared to 2018. AXC gross profit for the Heat Transfer Systems segment was \$29.2 million for the year ended December 31, 2019. Furthermore, VRV gross profit/(loss) for the Heat Transfer Systems segment was \$4.9 million and \$(1.1) million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of AXC and VRV, Heat Transfer Systems segment gross profit increased by \$2.8 million. Gross profit margin was 21.3% in 2019 compared to 19.4% in 2018. The increase in gross profit margin was primarily driven by AXC which contributed a higher margin compared to the rest of the Heat Transfer Systems segment's business.

Heat Transfer Systems segment SG&A expenses increased by \$14.6 million during 2019 as compared to 2018. AXC SG&A expenses for the Heat Transfer Systems segment were \$7.8 million for the year ended December 31, 2019. Furthermore, VRV SG&A expenses for the Heat Transfer Systems segment was \$6.5 million and \$0.7 million for the years ended December 31, 2019 and 2018, respectively. Excluding the impact of AXC and VRV, Heat Transfer Systems segment SG&A expenses increased by \$1.0 million.

Specialty Products—Results of Operations for the Years Ended December 31, 2020 and 2019

	Year Ended December 31,		2020 vs. 2019	
	2020	2019	Variance (\$)	Variance (%)
Sales	\$ 242.6	\$ 207.9	\$ 34.7	16.7 %
Gross Profit	84.3	72.2	12.1	16.8 %
Gross Profit Margin	34.7 %	34.7 %		
SG&A Expenses	\$ 22.2	\$ 22.4	\$ (0.2)	(0.9) %
SG&A Expenses (% of Sales)	9.2 %	10.8 %		
Operating Income	\$ 60.7	\$ 48.1	\$ 12.6	26.2 %
Operating Margin	25.0 %	23.1 %		

For the year 2020, Specialty Products segment sales increased by \$34.7 million as compared to 2019. This increase was primarily driven by favorable sales in hydrogen equipment and HLNG vehicle tanks.

For the year 2020, Specialty Products segment gross profit increased by \$12.1 million as compared to 2019. This increase in gross profit was mainly attributable to higher HLNG vehicle tanks volume, partially offset by new production line ramp up in Ornago, Italy during 2020. The increase in the related margin percentage was primarily driven by favorable product mix and volume as the Specialty Products segment gained better leverage on increased volume, primarily related to hydrogen equipment and HLNG vehicle tanks.

Specialty Products segment SG&A expenses decreased by \$0.2 million during the year 2020 as compared to 2019. As a percentage of sales, Specialty Products segment SG&A expenses was more favorable in 2020 compared to 2019 primarily due to general reductions across most SG&A categories.

Specialty Products—Results of Operations for the Years Ended December 31, 2019 and 2018

	Year Ended December 31,		2019 vs. 2018	
	2019	2018	Variance (\$)	Variance (%)
Sales	\$ 207.9	\$ 184.5	\$ 23.4	12.7 %
Gross Profit	72.2	68.5	3.7	5.4 %
Gross Profit Margin	34.7 %	37.1 %		
SG&A Expenses	\$ 22.4	\$ 22.0	\$ 0.4	1.8 %
SG&A Expenses (% of Sales)	10.8 %	11.9 %		
Operating Income	\$ 48.1	\$ 44.8	\$ 3.3	7.4 %
Operating Margin	23.1 %	24.3 %		

For the year 2019, Specialty Products segment sales increased by \$23.4 million (\$19.8 million organically) as compared to 2018 primarily on an increase in HLNG vehicle tank sales in Europe.

For the year 2019, Specialty Products segment gross profit increased by \$3.7 million (\$2.7 million organically) as compared to 2018 mainly driven by sales volume. As a percentage of sales, Specialty Products segment gross profit decreased by 240 basis points (220 basis points organically) based on product mix.

Specialty Products segment SG&A expenses increased by \$0.4 million during 2019 as compared to 2018. Specialty Products segment SG&A expenses as a percentage of sales were more favorable in 2019 compared to 2018 primarily due to lower employee-related costs.

Repair, Service & Leasing—Results of Operations for the Years Ended December 31, 2020 and 2019

	Year Ended December 31,		2020 vs. 2019	
	2020	2019	Variance (\$)	Variance (%)
Sales	\$ 158.3	\$ 162.6	\$ (4.3)	(2.6)%
Gross Profit	54.6	54.0	0.6	1.1 %
Gross Profit Margin	34.5 %	33.2 %		
SG&A Expenses	\$ 15.3	\$ 18.6	\$ (3.3)	(17.7)%
SG&A Expenses (% of Sales)	9.7 %	11.4 %		
Operating Income	\$ 30.3	\$ 27.9	\$ 2.4	8.6 %
Operating Margin	19.1 %	17.2 %		

For the year 2020, Repair, Service & Leasing segment sales decreased by \$4.3 million as compared to 2019, which was primarily driven by lower volume in aftermarket air cooled heat exchangers, partially offset by an increase in high margin, short-lead time replacement equipment and full lifecycle services.

For the year 2020, Repair, Service & Leasing segment gross profit increased by \$0.6 million, and the related margin percentage increased by 130 basis points primarily on lower restructuring costs in 2020 as compared to 2019.

Repair, Service & Leasing segment SG&A expenses decreased by \$3.3 million during the year 2020 as compared to 2019. As a percentage of sales, Repair, Service & Leasing segment SG&A expenses were more favorable in 2020 compared to 2019 primarily due to general reductions across most SG&A categories, mainly employee-related costs in light of restructuring actions taken during the period.

Repair, Service & Leasing—Results of Operations for the Years Ended December 31, 2019 and 2018

	Year Ended December 31,		2019 vs. 2018	
	2019	2018	Variance (\$)	Variance (%)
Sales	\$ 162.6	\$ 160.4	\$ 2.2	1.4 %
Gross Profit	54.0	47.2	6.8	14.4 %
Gross Profit Margin	33.2 %	29.4 %		
SG&A Expenses	\$ 18.6	\$ 20.1	\$ (1.5)	(7.5) %
SG&A Expenses (% of Sales)	11.4 %	12.5 %		
Operating Income	\$ 27.9	\$ 21.2	\$ 6.7	31.6 %
Operating Margin	17.2 %	13.2 %		

For the year 2019, Repair, Service & Leasing segment sales increased by \$2.2 million (\$0.2 million organically) as compared to 2018, which was primarily driven by higher volume in aftermarket air cooled heat exchangers, partially offset by a decrease in full lifecycle services.

For the year 2019, Repair, Service & Leasing segment gross profit increased by \$6.8 million (\$7.5 million organically) as compared to 2018, and the related margin increased by 380 basis points. The increase in gross profit and the related margin was mainly driven by volume and mix with high margin, short-lead time replacement equipment contributing more in volume as compared to the rest of the product and services lines of the business during 2019.

Repair, Service & Leasing segment SG&A expenses for 2019 decreased by \$1.5 million as compared to 2018 primarily due to lower employee-related costs driven by the effect of restructuring actions relative to the streamlining of commercial activities surrounding our lifecycle business.

Corporate

Corporate SG&A expenses decreased by \$5.0 million during 2020 as compared to 2019 primarily due to lower transaction-related costs. Corporate SG&A expenses increased by \$16.2 million during 2019 as compared to 2018 primarily due to \$7.3 million in transaction-related costs, \$4.3 million in integration costs related to acquisitions and an increase in share-based compensation expense partially offset by a decrease in employee-related costs.

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, 2020, 2019 and 2018 was \$810.0 million, \$751.2 million and \$557.5 million, respectively. Our backlog as of December 31, 2020 was inclusive of \$21.0 million of backlog remaining on Calcasieu Pass, compared to \$117.6 million of Calcasieu Pass remaining as of December 31, 2019. Excluding Calcasieu Pass, backlog increased by \$155.4 million or 24.5% in 2020 compared to 2019 driven by strong order intake across our business.

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

	Year Ended December 31,		
	2020	2019	2018
Orders			
Cryo Tank Solutions	\$ 417.5	\$ 409.5	\$ 397.4
Heat Transfer Systems	331.1	477.5	292.3
Specialty Products	279.2	274.9	221.2
Repair, Service & Leasing	196.8	166.5	152.1
Intersegment eliminations	(14.5)	(2.5)	—
Consolidated	\$ 1,210.1	\$ 1,325.9	\$ 1,063.0
	As of December 31,		
	2020	2019	2018
Backlog			
Cryo Tank Solutions	\$ 222.6	\$ 210.2	\$ 184.7
Heat Transfer Systems	329.2	357.1	187.7
Specialty Products	199.7	150.1	110.4
Repair, Service & Leasing	63.1	33.8	74.7
Intersegment eliminations	(4.6)	—	—
Consolidated	\$ 810.0	\$ 751.2	\$ 557.5

Orders and Backlog for the Year Ended and As of December 31, 2020 Compared to the Year Ended and As of December 31, 2019

Cryo Tank Solutions segment orders for 2020 were \$417.5 million compared to \$409.5 million for 2019, an increase of \$8.0 million. This increase was primarily driven by solid order intake for mobile equipment in China and India and favorable engineered systems orders in Europe and the U.S. partially offset by unfavorable orders for mobile equipment in Europe and the U.S. During 2020, Covid-19 shut downs softened order intake during the second quarter of 2020, but increased the last half of 2020 as restrictions eased and demand for medical oxygen equipment increased. Cryo Tank Solutions segment backlog totaled \$222.6 million as of December 31, 2020, compared to \$210.2 million as of December 31, 2019, an increase of \$12.4 million.

Heat Transfer Systems segment orders for 2020 were \$331.1 million compared to \$477.5 million for 2019, a decrease of \$146.4 million mainly driven by softness in demand for natural gas compression equipment. Included in 2020 Heat Transfer Systems segment orders was a \$70 million order for a downstream project (100% air cooled heat exchangers). Heat Transfer Systems segment backlog totaled \$329.2 million as of December 31, 2020 compared to \$357.1 million as of December 31, 2019, a decrease of \$27.9 million. Excluding Calcasieu Pass, Heat Transfer Systems backlog increased by \$68.7 million or 28.7% in 2020 compared to 2019. Included in Heat Transfer Systems segment backlog for all periods presented is approximately \$40.0 million related to the previously announced Magnolia LNG order where production release is delayed. In general, similar projects previously put on hold in the market are beginning to move ahead as the clean energy infrastructure build out ramps up.

Specialty Products segment orders for 2020 were \$279.2 million compared to \$274.9 million for 2019, an increase of \$4.3 million. This increase was mainly driven by an increase in HLNG vehicle tank and hydrogen equipment orders. Specialty Products segment backlog totaled \$199.7 million as of December 31, 2020, compared to \$150.1 million as of December 31, 2019, an increase of \$49.6 million.

Repair, Service & Leasing segment orders for 2020 were \$196.8 million compared to \$166.5 million for 2019, an increase of \$30.3 million, which was primarily driven by increases in aftermarket fans, full lifecycle services and our expanded leasing fleet partially offset by a decrease in aftermarket air cooled heat exchangers. Repair, Service & Leasing segment backlog totaled \$63.1 million as of December 31, 2020, compared to \$33.8 million as of December 31, 2019, an increase of \$29.3 million.

Orders and Backlog for the Year Ended and As of December 31, 2019 Compared to the Year Ended and As of December 31, 2018

Cryo Tank Solutions segment orders for 2019 were \$409.5 million compared to \$397.4 million for 2018, an increase of \$12.1 million or 3.0%. Cryo Tank Solutions segment orders include \$42.4 million and \$8.0 million in orders related to VRV for 2019 and 2018, respectively. Excluding the impact of VRV, Cryo Tank Solutions segment orders decreased by \$22.3 million primarily due to unfavorable mobile and storage equipment in Asia and unfavorable engineered systems in Europe. Cryo Tank Solutions segment backlog totaled \$210.2 million as of December 31, 2019, compared to \$184.7 million as of December 31, 2018. Cryo Tank Solutions segment backlog includes \$27.4 million and \$37.2 million in orders related to VRV as of December 31, 2019 and 2018, respectively. Excluding the impact of VRV, Cryo Tank Solutions segment backlog increased by \$35.3 million. The increase in Cryo Tank Solutions segment backlog was mainly driven by mobile equipment, primarily in Europe as demand for LNG fueling stations in Europe was increasing and key customers continued to order trailers for over the road trucking.

Heat Transfer Systems segment orders for 2019 were \$477.5 million compared to \$292.3 million for 2018, an increase of \$185.2 million, or 63.4%. Heat Transfer Systems segment orders includes \$48.9 million and \$2.0 million in orders related to VRV for 2019 and 2018, respectively. Furthermore, Heat Transfer Systems segment orders includes \$51.4 million in orders related to AXC for 2019. Excluding the impact of VRV and AXC, Heat Transfer Systems segment orders increased by \$86.9 million. Heat Transfer Systems segment backlog totaled \$357.1 million as of December 31, 2019 compared to \$187.7 million as of December 31, 2018. Heat Transfer Systems segment backlog includes \$45.1 million and \$38.5 million in backlog related to VRV as of December 31, 2019 and 2018, respectively. Furthermore, Heat Transfer Systems segment backlog includes \$31.5 million in backlog related to AXC as of December 31, 2019. Excluding the impact of VRV and AXC, Heat Transfer Systems segment backlog increased by \$131.3 million, which was primarily driven by Venture Global's Calcasieu Pass LNG export terminal project and petrochemical and natural gas processing applications.

Specialty Products segment orders for 2019 were \$274.9 million compared to \$221.2 million for 2018, an increase of \$53.7 million. Specialty Products segment orders includes \$13.8 million and \$0.6 million in orders related to VRV for 2019 and 2018, respectively. Excluding the impact of VRV, Specialty Products segment orders increased by \$40.5 million. This increase was primarily driven by an increase in hydrogen equipment orders partially offset by a decrease in orders for HLNG vehicle tanks. Specialty Products segment backlog totaled \$150.1 million as of December 31, 2019, compared to \$110.4 million as of December 31, 2018, an increase of \$39.7 million. Specialty segment backlog includes \$13.3 million and \$0.8 million in backlog related to VRV as of December 31, 2019 and 2018, respectively. Excluding the impact of VRV, Specialty Products segment backlog increased by \$27.2 million. The increase was driven by a \$21.0 million LNG rail order, the first of its magnitude for our Gas By Rail ("GBR") unique offering.

Repair, Service & Leasing segment orders for 2019 were \$166.5 million compared to \$152.1 million for 2018, an increase of \$14.4 million, which was primarily driven by air cooled heat exchangers, partially offset by a decrease in orders for full lifecycle services. Repair, Service & Leasing segment backlog totaled \$33.8 million as of December 31, 2019, compared to \$74.7 million as of December 31, 2018, a decrease of \$40.9 million primarily on work off of high margin, short-lead time replacement equipment during 2019.

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 \$125.1 million as of December 31, 2020, an increase of \$6.1 million from the balance at December 31, 2019. Our foreign subsidiaries held cash of approximately \$102.7 million and \$75.9 million at December 31, 2020 and 2019, respectively, to meet their liquidity needs. No material restrictions exist to accessing cash held by our foreign subsidiaries. We expect to meet our U.S. funding needs without repatriating non-U.S. cash and incurring incremental U.S. taxes. 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 SSRCF or other financing alternatives, and cash provided by operations will be sufficient to meet our normal working capital needs and capital expenditures for the foreseeable future.

Years Ended December 31, 2020 and 2019

Cash provided by operating activities during 2020 was \$172.7 million and includes \$18.3 million in cash provided by operating activities of discontinued operations, an increase of \$38.8 million from 2019, mainly due to favorable operating results, partially offset by an increase in cash used for working capital, primarily due to higher inventory levels.

Cash provided by investing activities during 2020 was \$185.0 million and includes \$316.7 million in cash provided by investing activities of discontinued operations, as compared to cash used in investing activities of \$642.7 million during 2019, which includes \$0.9 million in cash used in investing activities of discontinued operations. During 2020, we received net cash proceeds of \$317.5 million from the sale of our cryobiological products business. We used \$51.9 million of cash primarily for the acquisitions of Sustainable Energy Solutions, Inc. (\$20.0 million) BlueInGreen, LLC (\$20.0 million) and Alabama Trailers (\$10.0 million), \$50.8 million in investments in HTEC Hydrogen Technology & Energy Corporation (“HTEC”) and McPhy (Euronext Paris: MCPHY – ISIN; FR0011742329) and paid \$37.9 million for capital expenditures. See below for discussion regarding the composition of cash used in investing activities during 2019.

Cash used in financing activities during 2020 was \$363.4 million compared to cash provided by financing activities of \$511.6 million during 2019. During 2020, we borrowed \$215.0 million on credit facilities and repaid \$223.1 million in borrowings on credit facilities. We repaid \$344.1 million in borrowings on our term loan due 2024 mainly with proceeds from the Divestiture. We used \$19.3 million to repurchase shares of Chart common stock related to our share purchase program during 2020. We suspended the program on March 20, 2020 in light of uncertainty resulting from the Covid-19 pandemic and the desire to conserve cash resources. We received \$11.0 million in proceeds from stock option exercise during 2020. See below for discussion regarding the composition of cash provided by financing activities during 2019.

Years Ended December 31, 2019 and 2018

Cash provided by operating activities during 2019 was \$133.9 million and includes \$16.6 million in cash provided by operating activities of discontinued operations, an increase of \$45.1 million from 2018, mainly due to favorable operating results and a reduction in cash used for working capital, primarily lower inventory levels.

Cash used in investing activities during 2019 was \$642.7 million and includes \$0.9 million in cash used in investing activities of discontinued operations. Cash using in investing activities during 2018 was \$127.9 million and includes \$132.3 million in cash provided by investing activities of discontinued operations. During 2019, we used \$603.9 million of cash primarily for the acquisition of AXC with proceeds from a common stock offering and borrowings under our SSRCF and term loan due November 24, 2024 and paid \$36.2 million for capital expenditures mainly related to maintenance capital spending at VRV, investment in the LNG fuel systems production line in Europe, and automation projects in our New Prague, Minnesota facility. During 2018, we received net cash proceeds of \$133.5 million from the sale of our oxygen-related products business. Also during 2018, we used \$225.8 million of cash for acquisitions and \$36.4 million for capital expenditures mainly related to a capacity expansion project at our brazed aluminum heat exchanger facility in La Crosse, Wisconsin and capacity increase in Canton, Georgia to support LNG vehicle tanks production.

Cash provided by financing activities during 2019 and 2018 was \$511.6 million and \$38.2 million, respectively. During 2019, we borrowed \$450 million under the term loan and received proceeds of \$295.8 million from the 2019 Equity Offering to fund the AXC acquisition. During 2019, we borrowed \$235.8 million on our SSRCF to fund working capital needs and to fund a portion of the AXC acquisition and repaid \$451.1 million in SSRCF borrowings. We received \$9.4 million in proceeds from stock option exercises and used \$2.0 million for the purchase of common stock which was surrendered to cover tax withholding elections during the year. Cash provided by financing activities in 2018 mainly included borrowings on our previous senior secured revolving credit facility mainly to fund acquisitions, the settlement of our previous convertible notes and working capital needs proceeds net of repayments on our previous senior secured revolving credit facility.

Cash Requirements

We do not currently anticipate any unusual cash requirements for working capital needs for the year ending December 31, 2021. 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 2021 to be in the range of \$40.0 million to \$50.0 million.

Contractual Obligations

Our known contractual obligations as of December 31, 2020 and cash requirements resulting from those obligations are as follows (all dollar amounts in millions):

	Payments Due by Period				
	Total	Less Than 1 Year	1 – 3 Years	3 – 5 Years	More Than 5 Years
gross debt ⁽¹⁾	\$ 485.4	\$ —	\$ —	\$ 485.4	\$ —
contractual convertible notes interest	10.4	2.6	7.8	—	—
operating leases	31.3	6.6	11.8	9.4	3.5
pension obligations ⁽²⁾	0.7	—	—	0.7	—
total contractual cash obligations	\$ 527.8	\$ 9.2	\$ 19.6	\$ 495.5	\$ 3.5

⁽¹⁾ The \$258.8 principal balance of the 2024 Notes will mature on November 15, 2024, yet the carrying amount of the 2024 Notes is treated as current for financial statement reporting purposes.

⁽²⁾ The planned funding of the pension obligations is based upon actuarial and management estimates taking into consideration the current status of the plan.

Our commercial commitments as of December 31, 2020, 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 (all dollar amounts in millions):

	Total	Expiring in 2021	Expiring in 2022 and beyond
Standby letters of credit	\$ 47.4	\$ 0.5	\$ 46.9
Bank guarantees	63.6	6.1	57.5
Total commercial commitments	\$ 111.0	\$ 6.6	\$ 104.4

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

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 at one owned facility that is leased to a third party, and, except for these continuing remediation efforts, believes 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

During 2020, we had operations in Asia, Australia, India, Europe, and South America, which accounted for approximately 51% of consolidated sales and 31% of total assets at December 31, 2020. Functional currencies used by these operations include the U.S. dollar, Chinese yuan, the euro, the British pound, the Japanese yen and the Indian rupee. 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.

Application of Critical Accounting Policies

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. 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.

Goodwill is analyzed on a reporting unit basis. As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2019, our reporting units, which were the same as our operating and reportable segments were D&S East, D&S West, E&C Cryogenics and E&C FinFans. Effective October 1, 2020, we changed our reporting units, which are the same as our operating and reportable segments, to the following four segments: 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 or not 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 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).

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.

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 not more likely than not that an indefinite-

lived intangible asset is 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 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.

In connection with the annual impairment process described above, the Company, with the assistance of an outside professional accounting firm, performed an impairment analysis with respect to the trademarks and trade names indefinite-lived intangible assets of our AXC business ("AXC Intangible Asset"). Our preliminary analysis determined that no impairment was required for the AXC Intangible Asset, partially as a result of the inclusion of carbon capture future revenue streams in our forecast. After further analysis, we determined that these carbon capture opportunities should not have been included in our forecast as they resulted from investments and activities that occurred in the business after October 1, 2020, the appropriate measurement date. As a result of removing this revenue from the forecast, we recorded an impairment loss of \$16.0 million during 2020 relative to our \$55.0 million AXC Intangible Asset in our Heat Transfer Systems segment. Industry-wide softness in demand for midstream and upstream compression equipment represented impairment indicators requiring us to re-evaluate the fair value of the AXC Intangible Asset. We determined the fair value of the AXC Intangible Asset under the relief-from-royalty method and conducted an impairment test as defined above. We determined that the fair value of the AXC Intangible Asset was \$39.0 million and impaired the AXC Intangible Asset by a value equal to the difference in the carrying amount and calculated fair value.

As of October 1, 2020 and 2019 ("annual 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 assessment date and, therefore, no further action was necessary. Furthermore, as of the annual assessment dates, we also elected to bypass the qualitative assessment for the indefinite-lived intangible assets and based on our quantitative assessments, we determined that the fair value of each of the indefinite-lived intangible assets was greater than its respective carrying value, therefore, no further action was necessary.

Long-Lived Assets. We monitor our property, plant and equipment, and finite-lived intangible assets for impairment indicators on an ongoing basis. If impairment indicators exist, assets are grouped and tested at the lowest level for which identifiable cash flows are available and we perform the required analysis and record impairment charges if applicable. In conducting its 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 for use) or net realizable value (for assets held for sale). In assessing the recoverability of our long-lived assets, a significant amount of judgment is involved in estimating the future cash flows, discount rates and other factors necessary to determine the fair value of the respective assets. If these estimates or the related assumptions change in the future, we may be required to record impairment charges for these assets in the period such determination was made. We amortize intangible assets that have finite lives over their estimated useful lives. We had no long-lived asset impairments in the last three years.

Convertible Debt. We determined that the conversion option within our 1.00% Convertible Senior Subordinated Notes due November 2024 (the "2024 Notes") was not clearly and closely related to the debt instrument host, however, the conversion option met a scope exception to derivative instrument accounting since the conversion feature is indexed to our common stock and meets equity classification criteria. Convertible debt instruments exempt from derivative accounting and subject to cash settlement of the conversion option are recognized by bifurcating the principal balance into a liability component and an equity component where the fair value of the liability component is estimated by calculating the present value of its cash flows discounted at an interest rate that we would have received for similar debt instruments that have no conversion rights (the "straight-debt rate"), and the equity component is the residual amount, net of tax, which creates a discount on the 2024 Notes. We recognize non-cash interest accretion expense related to the carrying amount of the 2024 Notes which is accreted back to its principal amount over the expected life of the debt, which is also the stated life of the debt.

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 estimate 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.

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, an asset, to a customer. 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 a contract includes variable consideration, we evaluate the estimate of the variable consideration to 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 contract price is allocated among the performance obligations based upon the stand alone selling prices. 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.

For brazed aluminum heat exchangers, air cooled heat exchangers, cold boxes, liquefied natural gas fueling stations, engineered tanks, and repair services, most contracts contain language that transfers control to the customer over time. 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. 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. Timing of amounts billed on contracts varies from contract to contract and could cause significant variation in working capital needs. 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.

For standard industrial gas and LNG tanks and some products identified in the prior paragraph with contract language that does not meet the over time recognition requirements, the contract with the customer contains language that transfers control to the customer at a point in time. For these contracts, revenue is recognized when we satisfy our performance obligation to the customer. Timing of amounts billed on contracts varies from contract to contract. 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 because we have adopted the practical expedient contained in ASC 606-10-25-18B. Therefore, all shipping and handling costs associated with outbound freight are accounted for as a fulfillment costs and are included in cost of sales.

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 (benefit), net on the consolidated statements of income.

We have accounted for the tax effects of the Tax Cuts and Jobs Act (“Tax Act”), which was signed into law on December 22, 2017. The Tax Act, among other things, reduced the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, requires a current inclusion in U.S. federal taxable income of certain earnings of foreign corporations, and creates a new limitation on deductible interest expense. In 2017, we accounted for the tax effects of the Tax Cuts and Jobs Act under the guidance of SAB 118, on a provisional basis. In 2018, we finalized our analyses under SAB 118. For further information, see Note 16, “Income Taxes” included under Item 15, “Exhibits and Financial Statement Schedules” of this Annual Report on Form 10-K. We are subjected to a tax on Global Intangible Low Taxed Income (“GILTI”), which we record as a period cost as incurred.

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 revenues, cost synergies, accretion and earnings related to our recently completed acquisitions or statements with respect to the use of proceeds or redeployment of capital from recent divestitures. 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, cash flow, orders, results of operations, projected revenues, margins, capital expenditures, industry and business, trends, new market or expansion opportunities, cost 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 the SSRCF's various floating rate pricing mechanisms. If interest rates were to increase 100 basis points (1 percent) from the weighted-average interest rate of 2.1% at December 31, 2020, and assuming no changes in the \$123.5 million of borrowings outstanding under the SSRCF at December 31, 2020, our additional annual expense would be approximately \$1.2 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 income (loss) as reported in the consolidated statements of comprehensive income. Translation exposure is primarily with the euro, the Czech koruna, the Chinese yuan and the Indian rupee. During 2020, both the Chinese yuan and euro increased in relation to the U.S. dollar by less than 10%. At December 31, 2020, a hypothetical further 10% strengthening of the U.S. dollar would not materially affect our financial statements.

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 as a component of foreign currency loss. We enter into foreign exchange forward contracts to hedge anticipated and firmly committed foreign currency transactions. We do not use derivative financial instruments for speculative or trading purposes. The terms of the contracts are generally one year or less. At December 31, 2020, a hypothetical 10% weakening of the U.S. dollar would not materially affect our outstanding foreign exchange forward contracts.

Market Price Sensitive Instruments

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"). These Note Hedge Transactions are expected to reduce the potential dilution upon any future conversion of the 2024 Notes.

We also entered into separate, privately negotiated warrant transactions with the Option Counterparties to acquire up to 4.41 million shares of our common stock. The warrant transactions will have a dilutive effect with respect to our common stock to the extent that the price per share of our common stock exceeds the strike price of the warrants unless we elect, subject to certain conditions, to settle the warrants in cash. The strike price of the warrant transactions related to the 2024 Notes was initially \$71.775 per share. Further information is located in Note 10, "Debt and Credit Arrangements," of our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

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, 2020, 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, 2020, our Chief Executive Officer and Chief Financial Officer concluded that, as a result of the material weaknesses in the Company’s internal control over financial reporting described below, as of such date, our disclosure controls and procedures were not effective.

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, 2020 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”).

We did not include an evaluation of the internal control over financial reporting of SES, BIG and Alabama Trailers, which were acquired during 2020 and which, combined, constituted \$88.9 million and \$77.0 million of total and net assets, respectively, as of December 31, 2020, and \$2.9 million and \$0.3 million of sales and operating loss, respectively, for the year then ended.

Based on our assessment of internal control over financial reporting, management has concluded that, as of December 31, 2020, our internal control over financial reporting, because of the unremediated material weaknesses in our internal control over financial reporting described below, was not effective.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the registrant's annual or interim financial statements will not be prevented or detected on a timely basis.

As a result of its review, management concluded that we had material weaknesses in our internal control over financial reporting that were identified in connection with our annual goodwill and trademark impairment testing, consisting of the following:

- Control Activities – The Company did not maintain effective control activities based on criteria established by the COSO framework as the control activities that involve more complex judgments did not adequately consider the competency of personnel assigned to perform the review.
- Goodwill and Identifiable Intangible Assets, Net – As a result of the material weakness identified above, the Company failed to adequately design and implement internal controls over the review of its goodwill and indefinite-lived intangible assets for impairment.

The effectiveness of our internal control over financial reporting as of December 31, 2020 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," which notes the identification of these material weaknesses and is incorporated herein by reference.

Remediation Plan and Status

Our remediation efforts are in process, and we will continue our initiatives to design and implement and document policies, procedures, and internal controls. The Board of Directors and management have implemented, among other items, the following measures to address the material weaknesses identified:

- With respect to our annual impairment analysis, complete the formal review of the annual forecast by no later than September 30th;
- Evaluate and re-assess the design of our goodwill and intangible asset impairment process, including control activities associated with the review of data provided to third-party valuation specialists and evaluate the appropriateness of the assumptions and methodology used to measure the fair value of reporting units and the reasonableness of the conclusions in the third-party valuation specialists' reports;
- Evaluate the assignment of responsibilities associated with the accounting for goodwill and intangible asset impairment, including considering hiring additional resources or providing additional training to existing resources; and
- In order to ensure the quality and consistency of accounting treatments and interpretation across the impairment analysis process and maintain effective control activities, designate at least one of our senior accounting personnel to provide enhanced oversight to monitor the process, provide guidance on accounting treatment and assumptions and ensure quality-control for the process.

Our remediation of the identified material weaknesses and strengthening our internal control environment is ongoing. We will test the ongoing design and implementation and operating effectiveness of the new and existing controls in future periods. The material weaknesses cannot be considered remediated until the applicable controls have operated for a sufficient period of time and management has concluded, through testing, that these controls are designed and operating effectively. Accordingly, we will continue to monitor and evaluate the effectiveness of our internal control over financial reporting in the areas affected by the material weaknesses described above.

Changes in Internal Control over Financial Reporting

Except for the Company's identification and assessment of the material weaknesses described above, 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

Not applicable.

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 2021 Proxy Statement is incorporated herein by reference. Information required by this item as to the Executive Officers of the Company is included as Item 4A of this Annual Report on Form 10-K as permitted by Instruction 3 to Item 401(b) of Regulation S-K. Information required by Item 405 is set forth in the 2021 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 2021 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., 3055 Torrington Drive, 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.

Set forth below is a list of the members of our Board of Directors as of March 1, 2021:

Directors

STEVEN W. KRABLIN ⁽²⁾⁽³⁾

Chairman of the Board

Retired President, Chief Executive Officer and Chairman of the Board

T-3 Energy Services, Inc.

Oilfield services company that manufactures products used in the drilling, production and transportation of oil and gas

JILLIAN C. EVANKO

Chief Executive Officer, President and Chief Financial Officer

Chart Industries, Inc.

CAREY CHEN ⁽¹⁾⁽³⁾

Chief Executive Officer, Incodema Holdings

Precision sheet metal fabricator, photo chemical etching manufacturer and high speed CNC machining manufacturer

SINGLETON B. MCALLISTER ⁽¹⁾⁽²⁾

Of Counsel and Senior Advisor

Husch Blackwell LLP

Law firm and affiliated lobbying and governmental affairs counseling firm

MICHAEL L. MOLININI ⁽¹⁾⁽²⁾

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

Global producer of specialty trucks, truck bodies, and access equipment used in defense, construction and service markets

(1) Compensation Committee

(2) Nominations and Corporate Governance Committee

(3) Audit Committee

Item 11. *Executive Compensation*

The information required by Item 402 of Regulation S-K is set forth in the 2021 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 2021 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 2021 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 2021 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 2021 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 2020 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 Firms

Consolidated Balance Sheets

Consolidated Statements of Income

Consolidated Statements of Comprehensive Income

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, 2020, 2019 and 2018

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.

INDEX TO FINANCIAL STATEMENTS

Audited Consolidated Financial Statements:

Reports of Independent Registered Public Accounting Firms	F-1
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Consolidated Statements of Income	F-9
Consolidated Statements of Comprehensive Income	F-10
Consolidated Statements of Cash Flows	F-11
Consolidated Statements of Equity	F-13
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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, 2020 and 2019, the related consolidated statements of income, comprehensive income, equity, and cash flows, for each of the two years in the period ended December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020, 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, 2020, 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 March 1, 2021, expressed an adverse opinion on the Company's internal control over financial reporting because of material weaknesses.

Adoption of New Accounting Standard

As discussed in Note 2 to the financial statements, the Company has changed its method for accounting for leases as a result of the adoption of Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*, and other subsequent amendments collectively identified as ASC 842 effective January 1, 2019 using the modified retrospective transition method.

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.

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

Critical Audit Matter Description

As of December 31, 2020, net sales were \$1,177.1 million, of which \$479.8 million was recognized over time. . For contracts that contain language that transfers control to the customer over time, revenue is recognized as the Company satisfies the performance obligations by an allocation of the transaction price to the accounting period computed using input methods such as costs incurred. The input method measures progress toward the satisfaction of the performance obligation by multiplying the transaction price

allocated to the performance obligation by the percentage of incurred inputs as of the balance sheet date to the total estimated inputs at completion after giving effect to the most current estimates.

We identified revenue associated with in-process contracts recognized over time as a critical audit matter because of the judgments necessary for management to estimate total inputs used to recognize revenue for these contracts. Management's estimates of total inputs are subjective in nature resulting in a higher degree of audit effort and judgment. Changes in estimated inputs could have a significant impact on the timing of revenue recognition.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to estimates of total inputs used to recognize revenue for contracts over time 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 inputs.
- We selected a sample of in process revenue contracts recognized over time and performed the following:
 - Tested the accuracy and completeness of the inputs incurred to date.
 - Evaluated the estimates of total inputs by:
 - Comparing estimates of total inputs to the original project budget and understanding changes in estimates.
 - Evaluating management's ability to achieve the estimates of total inputs by 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 inputs.
 - Comparing management's estimates for the selected contracts to inputs of similar contracts, when applicable.
- We evaluated management's ability to estimate total inputs 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 determines the fair value of its reporting units using the income and market approaches. The determination 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 similar companies. 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 \$817.6 million as of October 1, 2020 (the annual impairment testing date), of which \$121.5 million, \$118.6 million, \$176.2 million, and \$401.3 million was allocated to the Distribution and Storage Eastern Hemisphere ("D&S East"), Distribution and Storage Western Hemisphere ("D&S West"), Energy and Chemicals Cryogenics ("E&C Cryogenics"), and Energy and Chemicals FinFans ("E&C FinFans") reporting units, respectively. The fair values of E&C Cryogenics, E&C FinFans, D&S West, and D&S East reporting units exceeded their carrying values as of the measurement date and, therefore, no impairment was recognized.

We identified goodwill for D&S East, E&C Cryogenics, and E&C FinFans as a critical audit matter because of the significant estimates and assumptions management makes to estimate the fair value of each reporting unit, the sensitivity of the valuations to changes in the assumptions, specifically related to forecasts of future revenue and cash flows and selection of the discount rate used in the income approach, and the selection of pricing multiples for similar companies used in the market approach, and the material weaknesses identified. 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 the forecasts of future revenues and cash flows ("forecasts"), and the selection of pricing multiples and discount rate included the following, among others:

- We evaluated management's ability to accurately forecast by comparing actual results to management's historical forecasts.

- We evaluated the reasonableness of management’s forecasts by comparing the forecasts to (1) historical results, (2) internal communications to management and the Board of Directors, and (3) forecasted information included in the Company press releases as well as in analyst and industry reports of the Company and companies in its peer group.
- We considered the impact of changes in the industry on management’s forecasts.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) valuation assumptions, including discount rate and pricing multiples by:
 - Testing the source information underlying the determination of the discount rate and pricing multiples and testing the mathematical accuracy of the calculation.
 - Developing a range of independent estimates and comparing those to the discount rate and pricing multiples selected by management.

Indefinite-Lived Intangible Assets — Refer to Notes 2 and 9 to the financial statements

Critical Audit Matter Description

The Company has trademarks and trade names that are indefinite-lived intangible assets. As of December 31, 2020, the carrying value of the trademarks and trade names was \$143.9 million. Management estimates the fair value of the trademarks and trade names annually in the fourth quarter or whenever events or changes in circumstances indicate that an evaluation should be completed, using a relief from royalty method, which is a specific discounted cash flow method. The determination of the fair value requires management to make significant estimates and assumptions related to forecasts of future revenues and discount rates to estimate the royalty savings. Changes in these assumptions could have a significant impact on the fair value of trademarks and trade names and a significant change in fair value could cause a significant impairment.

We identified trademarks and trade names related to Air-X-Changers as a critical audit matter because of the significant estimates and assumptions management makes to estimate the fair value of the trademark and trade name, the sensitivity of the valuation to changes in the assumptions related to forecasts of future revenues and selection of the discount rates used in the relief from royalty method, and the material weaknesses identified. 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 the forecasts of future revenues and the selection of the discount rate included the following, among others:

- We evaluated management’s ability to accurately forecast future revenues by comparing actual results to management’s historical forecasts.
- We evaluated the reasonableness of management’s forecast of future revenue by comparing the forecasts of future revenue to (1) historical results, (2) internal communications to management and the Board of Directors, and (3) forecasted information included in the Company press releases as well as in analyst and industry reports of the Company and companies in its peer group.
- We considered the impact of changes in the industry on management’s forecasts of future revenues.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) valuation assumptions, including discount rate by:
 - Testing the source information underlying the determination of the discount rate testing the mathematical accuracy of the calculation.
 - Developing a range of independent estimates and comparing those to the discount rate selected by management.

/s/ Deloitte & Touche LLP

Atlanta, Georgia

March 1, 2021

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, 2020, 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, because of the effect of the material weaknesses identified below on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2020, 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, 2020, of the Company and our report dated March 1, 2021, expressed an unqualified opinion on those financial statements.

As described in Management’s Report on Internal Control Over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Sustainable Energy Solutions, Inc., which was acquired on December 23, 2020, BlueInGreen, LLC, which was acquired on November 3, 2020, and Alabama Trailers, which was acquired on October 13, 2020, and whose combined financial statements constitute \$88.9 million and \$77.0 million of total and net assets, respectively, as of December 31, 2020, and \$2.9 million and \$0.3 million of sales and operating loss, respectively, for the year then ended. Accordingly, our audit did not include the internal control over financial reporting at Sustainable Energy Solutions, Inc., BlueInGreen, LLC, and Alabama Trailers.

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.

Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company’s annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management’s assessment:

- Control Activities – The Company did not maintain effective control activities based on criteria established by the COSO framework as the control activities that involve more complex judgments did not adequately consider the competency of personnel assigned to perform the review.
- Goodwill and Identifiable Intangible Assets, Net – As a result of the material weakness identified above, the Company failed to adequately design and implement internal controls over the review of its goodwill and indefinite-lived intangible assets for impairment.

These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the consolidated financial statements as of and for the year ended December 31, 2020, of the Company, and this report does not affect our report on such financial statements.

/s/ Deloitte & Touche LLP

Atlanta, Georgia

March 1, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Chart Industries, Inc. and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of income, comprehensive income, equity and cash flows of Chart Industries, Inc. and Subsidiaries (the Company) for the year ended December 31, 2018, and the related notes and the financial statement schedule listed in the index at Item 15(a) 2 (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the results of its operations and its cash flows for the year ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Adoption of New Accounting Standard

The Company changed its method for accounting for revenue in 2018 as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), and the amendments in ASUs 2015-14, 2016-08, 2016-10 and 2016-12 effective January 1, 2018.

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.

/s/ Ernst & Young LLP

We have served as the Company’s auditor since 1991.

Atlanta, Georgia

February 22, 2019

except for Notes 3, 4 and 5, as to which the date is

March 1, 2021

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

	December 31,	
	2020	2019
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 125.1	\$ 119.0
Accounts receivable, less allowances of \$8.4 and \$8.5, respectively	200.8	191.6
Inventories, net	248.4	210.0
Unbilled contract revenue	79.4	86.1
Prepaid expenses	20.0	17.5
Other current assets	29.3	27.8
Current assets of discontinued operations	—	21.6
Total Current Assets	703.0	673.6
Property, plant and equipment, net	414.5	397.8
Goodwill	865.9	811.4
Identifiable intangible assets, net	493.1	522.4
Investments	78.9	13.4
Other assets	15.1	15.8
Non-current assets of discontinued operations	—	47.0
TOTAL ASSETS	\$ 2,570.5	\$ 2,481.4
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts payable	\$ 140.1	\$ 120.8
Customer advances and billings in excess of contract revenue	118.9	127.7
Accrued salaries, wages and benefits	39.7	40.0
Accrued income taxes	46.5	11.8
Current portion of warranty reserve	11.0	10.2
Short-term debt and current portion of long-term debt	—	16.3
Current convertible notes	220.9	—
Operating lease liabilities, current	5.1	6.3
Other current liabilities	52.6	39.3
Current liabilities of discontinued operations	—	5.9
Total Current Liabilities	634.8	378.3
Long-term debt	221.6	761.0
Long-term deferred tax liabilities	60.2	52.1
Accrued pension liabilities	9.6	10.2
Operating lease liabilities, non-current	23.6	27.8
Other long-term liabilities	41.4	19.4
Non-current liabilities of discontinued operations	—	0.2
Total Liabilities	991.2	1,249.0
Equity		
Common stock, par value \$0.01 per share — 150,000,000 shares authorized, 36,185,829 and 35,799,994 shares issued and outstanding at December 31, 2020 and 2019, respectively	0.4	0.4
Additional paid-in capital	780.8	762.8
Treasury Stock; 760,782 shares at December 31, 2020	(19.3)	—
Retained earnings	808.4	500.3

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

	December 31,	
	2020	2019
Accumulated other comprehensive income (loss)	2.4	(35.9)
Total Chart Industries, Inc. Shareholders' Equity	1,572.7	1,227.6
Noncontrolling interests	6.6	4.8
Total Equity	1,579.3	1,232.4
TOTAL LIABILITIES AND EQUITY	\$ 2,570.5	\$ 2,481.4

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,		
	2020	2019	2018
Sales	\$ 1,177.1	\$ 1,215.5	\$ 1,003.9
Cost of sales	845.0	918.0	744.8
Gross profit	332.1	297.5	259.1
Selling, general and administrative expenses	178.2	205.7	172.7
Amortization expense	45.7	39.8	21.9
Asset impairments	16.0	—	—
Operating expenses	239.9	245.5	194.6
Operating income	92.2	52.0	64.5
Interest expense, net	17.7	14.7	21.4
Gain on bargain purchase	(5.0)	—	—
Unrealized (gain) loss on investment in equity securities	(13.1)	0.1	—
Financing costs amortization	4.3	3.0	1.3
Foreign currency loss (gain)	0.9	(0.4)	0.1
Other expense	2.2	—	—
Income from continuing operations before income taxes	85.2	34.6	41.7
Income tax expense (benefit):			
Current	13.9	19.0	1.9
Deferred	1.0	(16.2)	5.3
Income tax expense (benefit), net	14.9	2.8	7.2
Net income from continuing operations	70.3	31.8	34.5
Income from discontinued operations, net of tax	239.2	15.0	55.5
Net income	309.5	46.8	90.0
Less: Income attributable to noncontrolling interests of continuing operations, net of taxes	1.4	0.4	2.0
Net income attributable to Chart Industries, Inc.	\$ 308.1	\$ 46.4	\$ 88.0
Net income attributable to Chart Industries, Inc.			
Income from continuing operations	\$ 68.9	\$ 31.4	\$ 32.5
Income from discontinued operations	239.2	15.0	55.5
Net income attributable to Chart Industries, Inc.	\$ 308.1	\$ 46.4	\$ 88.0
Basic earnings per common share attributable to Chart Industries, Inc.			
Income from continuing operations	\$ 1.95	\$ 0.93	\$ 1.05
Income from discontinued operations	6.76	0.44	1.78
Net income attributable to Chart Industries, Inc.	\$ 8.71	\$ 1.37	\$ 2.83
Diluted earnings per common share attributable to Chart Industries, Inc.			
Income from continuing operations	\$ 1.89	\$ 0.89	\$ 1.01
Income from discontinued operations	6.56	0.43	1.72
Net income attributable to Chart Industries, Inc.	\$ 8.45	\$ 1.32	\$ 2.73
Weighted-average number of common shares outstanding:			
Basic	35.38	33.91	31.05
Diluted	36.45	35.17	32.20

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

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

	Year Ended December 31,		
	2020	2019	2018
Net income	\$ 309.5	\$ 46.8	\$ 90.0
Other comprehensive income (loss):			
Foreign currency translation adjustments	38.8	(7.5)	(19.7)
Defined benefit pension plan:			
Actuarial (loss) gain on remeasurement	(1.9)	0.3	(3.5)
Amortization of net loss	1.2	1.3	0.9
Defined benefit pension plan	(0.7)	1.6	(2.6)
Other comprehensive income (loss), before tax	38.1	(5.9)	(22.3)
Income tax benefit (expense) related to defined benefit pension plan	0.2	(0.1)	0.5
Other comprehensive income (loss), net of taxes	38.3	(6.0)	(21.8)
Comprehensive income	347.8	40.8	68.2
Less: Comprehensive income attributable to noncontrolling interests, net of taxes	(1.4)	(0.4)	(2.0)
Comprehensive income attributable to Chart Industries, Inc.	<u>\$ 346.4</u>	<u>\$ 40.4</u>	<u>\$ 66.2</u>

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,		
	2020	2019	2018
OPERATING ACTIVITIES			
Net income	\$ 309.5	\$ 46.8	\$ 90.0
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	85.2	78.8	54.7
Gain on sale of business	(249.4)	—	(36.9)
Asset impairments	16.0	—	—
Gain on bargain purchase	(5.0)	—	—
Interest accretion of convertible notes discount	8.0	7.6	9.1
Financing costs amortization	4.3	3.0	1.3
Employee share-based compensation expense	8.9	9.0	6.9
Unrealized gain on investment in equity securities	(13.1)	0.1	—
Unrealized foreign currency transaction (gain) loss	2.3	0.6	(2.2)
Deferred income tax expense (benefit)	1.0	(16.2)	5.3
Other non-cash operating activities	1.5	0.8	(2.4)
Changes in assets and liabilities, net of acquisitions:			
Accounts receivable	(10.1)	23.6	32.5
Inventory	(34.9)	9.4	(35.6)
Unbilled contract revenues and other assets	(5.0)	(1.6)	(3.7)
Accounts payable and other liabilities	62.8	(20.9)	(35.7)
Customer advances and billings in excess of contract revenue	(9.3)	(7.1)	5.5
Net Cash Provided By Operating Activities	172.7	133.9	88.8
INVESTING ACTIVITIES			
Proceeds from sale of businesses	317.5	—	133.5
Acquisition of businesses, net of cash acquired	(51.9)	(603.9)	(225.8)
Investments ⁽¹⁾	(50.8)	(3.3)	—
Capital expenditures	(37.9)	(36.2)	(36.4)
Proceeds from sale of assets	7.9	—	—
Government grants	0.2	0.7	0.8
Net Cash Provided By (Used In) Investing Activities	185.0	(642.7)	(127.9)
FINANCING ACTIVITIES			
Borrowings on revolving credit facilities	215.0	235.8	411.7
Repayments on revolving credit facilities	(223.1)	(451.1)	(316.8)
Repurchase of convertible notes	—	—	(57.1)
Borrowings on term loan	—	450.0	—
Repayments on term loan	(344.1)	(2.8)	(5.9)
Payments for debt issuance costs	(1.0)	(13.6)	(1.4)
Issuance of shares	—	295.8	—
Payments for equity issuance costs	—	(9.5)	—
Proceeds from exercise of stock options	11.0	9.4	10.8
Common stock repurchases from share-based compensation plans	(1.9)	(2.0)	(2.7)
Common stock repurchases	(19.3)	—	—
Dividend distribution to noncontrolling interests	—	(0.4)	(0.4)
Net Cash (Used in) Provided By Financing Activities	(363.4)	511.6	38.2
Effect of exchange rate changes on cash and cash equivalents	11.8	(1.9)	(11.4)

	Year Ended December 31,		
	2020	2019	2018
Net increase (decrease) in cash, cash equivalents, restricted cash, and restricted cash equivalents ⁽²⁾	6.1	0.9	(12.3)
Cash, cash equivalents, restricted cash, and restricted cash equivalents at beginning of period	120.0	119.1	131.4
CASH, CASH EQUIVALENTS, RESTRICTED CASH, AND RESTRICTED CASH EQUIVALENTS AT END OF PERIOD ⁽³⁾	\$ 126.1	\$ 120.0	\$ 119.1

⁽¹⁾ Non-cash investing activities of \$7.0 related to the conversion of a note receivable into an investment in equity securities during the year ended December 31, 2019. Refer to Note 6, "Investments" for further information.

⁽²⁾ Net increase (decrease) in cash, cash equivalents, restricted cash, and restricted cash equivalents represents cash flows of consolidated operations for all periods presented. For cash flows of discontinued operations, refer to Note 3, "Discontinued Operations."

⁽³⁾ Refer to Note 10, "Debt and Credit Arrangements," for further information regarding restricted cash and restricted cash equivalents balances.

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		Additional Paid-in Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Non- controlling Interests	Total Equity
	Shares Outstanding	Amount						
Balance at December 31, 2017	30.81	\$ 0.3	\$ 445.7	\$ —	\$ 364.3	\$ (8.1)	\$ 3.0	\$ 805.2
Net income	—	—	—	—	88.0	—	2.0	90.0
Cumulative effect of accounting change	—	—	—	—	1.6	—	—	1.6
Other comprehensive loss	—	—	—	—	—	(21.8)	—	(21.8)
Share-based compensation expense	—	—	6.9	—	—	—	—	6.9
Common stock issued from share-based compensation plans	0.60	—	10.3	—	—	—	—	10.3
Common stock repurchases from share-based compensation plans	(0.05)	—	(2.7)	—	—	—	—	(2.7)
Dividend distribution to noncontrolling interest	—	—	—	—	—	—	(0.4)	(0.4)
Other	—	—	—	—	—	—	(0.1)	(0.1)
Balance at December 31, 2018	31.36	0.3	460.2	—	453.9	(29.9)	4.5	889.0
Net income	—	—	—	—	46.4	—	0.4	46.8
Other comprehensive loss	—	—	—	—	—	(6.0)	—	(6.0)
Common stock issuance, net of equity issuance costs ⁽¹⁾	4.03	0.1	286.2	—	—	—	—	286.3
Share-based compensation expense	—	—	9.0	—	—	—	—	9.0
Common stock issued from share-based compensation plans	0.30	—	9.4	—	—	—	—	9.4
Common stock repurchases from share-based compensation plans	0.11	—	(2.0)	—	—	—	—	(2.0)
Dividend distribution to noncontrolling interest	—	—	—	—	—	—	(0.4)	(0.4)
Other	—	—	—	—	—	—	0.3	0.3
Balance at December 31, 2019	35.80	0.4	762.8	—	500.3	(35.9)	4.8	1,232.4
Net income	—	—	—	—	308.1	—	1.4	309.5
Other comprehensive income	—	—	—	—	—	38.3	—	38.3
Share-based compensation expense	—	—	8.9	—	—	—	—	8.9
Common stock issued from share-based compensation plans	0.42	—	11.0	—	—	—	—	11.0
Common stock repurchases from share-based compensation plans	(0.03)	—	(1.9)	—	—	—	—	(1.9)
Common stock repurchases ⁽²⁾	—	—	—	(19.3)	—	—	—	(19.3)
Other	—	—	—	—	—	—	0.4	0.4
Balance at December 31, 2020	36.19	\$ 0.4	\$ 780.8	\$ (19.3)	\$ 808.4	\$ 2.4	\$ 6.6	\$ 1,579.3

⁽¹⁾ Equity issuance costs were \$9.5 during the year ended December 31, 2019.

⁽²⁾ Includes \$19.3 in shares repurchased through our share repurchase program. Refer to Note 2, "Significant Accounting Policies," for further information.

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

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

NOTE 1 — Nature of Operations and Principles of Consolidation

Nature of Operations: We are a leading independent global manufacturer of highly engineered equipment servicing multiple applications in the Energy and Industrial Gas markets. Our unique product portfolio is used in every phase of the liquid gas supply chain, including upfront engineering, service and repair. Being at the forefront of the clean energy transition, Chart is a leading provider of technology, equipment and services related to liquefied natural gas, hydrogen, biogas and CO2 Capture amongst other applications. We are committed to excellence in environmental, social and corporate governance (ESG) issues both for our company as well as our customers. With over 25 global locations 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.

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.

Reclassifications: On October 1, 2020, we closed on the sale of our cryobiological products business to Cryoport, Inc. (NASDAQ: CYRX). Refer to Note 3, “Discontinued Operations,” for further information. Furthermore, effective October 1, 2020, we changed our reportable segments as further discussed in Note 4, “Segment and Geographic Information. Certain reclassifications have been made to 2019 and 2018 consolidated statements of income and comprehensive income and 2018 consolidated statement of cash flows, the 2019 consolidated balance sheet and certain notes to the consolidated financial statements in order to conform to the 2020 presentation.

NOTE 2 — Significant Accounting Policies

Use of Estimates: The preparation of financial statements in conformity with U.S. generally accepted accounting principles 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 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. While our production has been considered “essential” in all locations we operate in, we have experienced, and may again experience in the future, temporary facility closures while awaiting appropriate government approvals in certain jurisdictions. The Covid-19 outbreak could also disrupt our supply chain and materially adversely impact our ability to secure supplies for our facilities, which could materially adversely affect our operations. There may also be long-term effects on our customers in and the economies of affected countries. As a result of these uncertainties, actual results could differ from those estimates and assumptions. If the economy or markets in which we operate remain weak or deteriorate further, our business, financial condition and results of operations may be materially and adversely impacted.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) was signed into law in the United States. The CARES Act, among other things, includes modifications to net operating loss carryforwards provisions and the net interest expense deduction, and deferment of social security tax payments. We have not elected to avail ourselves of the CARES Act.

Share Repurchase Program: On March 11, 2020, our Board of Directors authorized a share repurchase program for up to \$75 million of the Company’s common stock over the next twelve months 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. During the first quarter of 2020, we repurchased 0.76 shares of our common stock at an average price of \$25.40 per share for a total purchase price of \$19.3. We suspended the program on March 20, 2020 in light of uncertainty resulting from the Covid-19 pandemic and the desire to conserve cash resources. As of December 31, 2020, we had approximately \$55.7 available for additional repurchases under the share repurchase program, although we have no current intentions to recommence repurchases under this program.

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. See Note 10, “Debt and Credit Arrangements” for additional information about restricted cash and restricted cash equivalents, which are included in other current assets and other assets in the accompanying consolidated balance sheets.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

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 doubtful accounts 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.

Lease 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. 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 operating lease liabilities, current and operating lease liabilities, non-current in our consolidated balance sheet. 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. Operating lease ROU assets and liabilities were recognized on the 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 used our incremental borrowing rate based on the information available on the Commencement Date in determining the present value of lease payments.

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. As previously reported in our Annual Report on Form 10-K for the year ended December 31, 2019, our reporting units, which were the same as our operating and reportable segments were Distribution and Storage Eastern Hemisphere (“D&S East”), Distribution and Storage Western Hemisphere (“D&S West”), Energy & Chemicals (“E&C”) Cryogenics and E&C FinFans. Effective October 1, 2020, we changed our reporting units, which are the

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

same as our operating and reportable segments, to the following four segments: 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.

See Note 9, “Goodwill and Intangible Assets,” for more information relating to goodwill and indefinite-lived intangible assets.

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.

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Convertible Debt: We determined that the conversion option within our convertible notes due November 2024 was not clearly and closely related to the debt instrument host, however, the conversion option met a scope exception to derivative instrument accounting since the conversion feature is indexed to our common stock and meets equity classification criteria. Convertible debt instruments exempt from derivative accounting and subject to cash settlement of the conversion option are recognized by bifurcating the principal balance into a liability component and an equity component where the fair value of the liability component is estimated by calculating the present value of its cash flows discounted at an interest rate that we would have received for similar debt instruments that have no conversion rights (the “straight-debt rate”), and the equity component is the residual amount, net of tax, which creates a discount on our convertible notes due November 2024. We recognize non-cash interest accretion expense related to the carrying amount of our convertible notes due November 2024 which is accreted back to its principal amount over the expected life of the debt, which is also the stated life of the debt. Subsequent to December 31, 2020, on January 1, 2021, we will adopt ASU 2020-06, “Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entities Own Equity (Subtopic 815-40)” which, among other things, modifies the accounting for convertible debt and diluted earnings per share accounting treatment. For further discussion see the *Recently Issued Accounting Standards (Not Yet Adopted)* section toward the end of this section.

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 purchases and certain intercompany 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 and the Japanese yen. 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 current liabilities or assets. Changes in their fair value are recorded in the consolidated statements of income as foreign currency gains or losses. 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.

Product Warranties: We provide product warranties with varying terms and durations for the majority of our products. We estimate product warranty costs and accrue for these costs as products are sold with a charge to cost of sales. Factors considered in estimating warranty costs include historical and projected warranty claims, historical and projected cost-per-claim, and knowledge of specific product issues that are outside of typical experience. Warranty accruals are evaluated and adjusted as necessary based on actual claims experience and changes in future claim and cost estimates.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
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Business Combinations: We account for business combinations in accordance with Accounting Standards Codification (“ASC”) 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.

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, an asset, to a customer. 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 a contract includes variable consideration, we evaluate the estimate of the variable consideration to 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 contract price is allocated among the performance obligations based upon the stand alone selling prices. 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.

For brazed aluminum heat exchangers, air cooled heat exchangers, cold boxes, liquefied natural gas fueling stations, engineered tanks, and repair services, most contracts contain language that transfers control to the customer over time. 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. 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. Timing of amounts billed on contracts varies from contract to contract and could cause significant variation in working capital needs. 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.

For standard industrial gas and LNG tanks and some products identified in the prior paragraph with contract language that does not meet the over time recognition requirements, the contract with the customer contains language that transfers control to the customer at a point in time. For these contracts, revenue is recognized when we satisfy our performance obligation to the customer. Timing of amounts billed on contracts varies from contract to contract. 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.

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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 because we have adopted the practical expedient contained in ASC 606-10-25-18B. Therefore, all 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. Shipping revenue of \$10.6, \$11.3, and \$10.6 for the years ended December 31, 2020, 2019 and 2018, respectively, are included in sales. Shipping costs of \$15.0, \$15.8, and \$15.2 for the years ended December 31, 2020, 2019 and 2018, respectively, are included in cost of sales.

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, design engineering, 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.

Advertising Costs: We incurred advertising costs of \$2.7, \$4.0, and \$3.7 for the years ended December 31, 2020, 2019 and 2018, respectively. Such costs are expensed as incurred and included in SG&A expenses in the consolidated statements of income.

Research and Development Costs: We incurred research and development costs of \$9.1, \$9.2, and \$8.7 for the years ended December 31, 2020, 2019 and 2018, 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 income (loss) in the consolidated statements of comprehensive income. 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 foreign currency loss in the consolidated statements of income. Gains or losses resulting from foreign currency transactions are charged to net income 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.

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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 have accounted for the tax effects of the Tax Cuts and Jobs Act (“Tax Act”), which was signed into law on December 22, 2017. The Tax Act, among other things, reduced the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, requires a current inclusion in U.S. federal taxable income of certain earnings of foreign corporations, and creates a new limitation on deductible interest expense. In 2017, we accounted for the tax effects of the Tax Cuts and Jobs Act under the guidance of SAB 118, on a provisional basis. In 2018, we finalized our analyses under SAB 118. For further information, see Note 16, “Income Taxes.” 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 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 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 two defined benefit pension plans including the Chart Pension Plan, which has been frozen since February 2006, and a noncontributory defined benefit plan that we acquired as part of the Hudson acquisition (the “Hudson Plan”). The Hudson Plan is closed to new participants and not considered significant to our consolidated financial statements.

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. 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 plan’s assets.

Recently Issued Accounting Standards (Not Yet Adopted): In August 2020, the FASB issued ASU 2020-06, “Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entities Own Equity (Subtopic 815-40).” This ASU simplifies accounting for convertible instruments by eliminating two of the three models in ASC 470-20 that require separating embedded conversion features from convertible instruments. The guidance is effective for fiscal years beginning after December 15, 2021. We will adopt this guidance effective January 1, 2021 under the modified retrospective adoption approach. The cumulative effect of the change will be recognized as an adjustment to the opening balance of retained earnings at the date of adoption. As a result of the adoption, our convertible notes due November 2024 will no longer be bifurcated into separate liability and equity components in our balance sheet. Rather, the \$258.8 principal amount of our convertible notes due November 2024 will be classified as a liability only. Furthermore, interest expense related to the accretion of our convertible notes due November 2024 will no longer be recognized. As further described in Note 10, “Debt and Credit Arrangements,” on December 31, 2020, we amended the Indenture governing our convertible notes due November 2024 to eliminate share settlement thus leaving us with two settlement options: (1) cash settlement or (2) cash for par and any

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combination of cash and shares for the excess settlement amount above the \$258.8 principal amount of our convertible notes due November 2024. The guidance requires usage of the if-converted method to compute diluted earnings per share for our convertible notes due November 2024, however, based on the terms of the amended Indenture and the cessation of interest accretion expense recognition from the transition at adoption, the if-converted method was modified such that interest expense is no longer added to the numerator, and the denominator only includes incremental shares that would be issued upon conversion.

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.” This ASU 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. The amendments in this ASU are effective for all entities as of March 12, 2020 through December 31, 2022. An entity may elect to apply the amendments for contract modifications by Topic or Industry Subtopic as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or prospectively from a date within an interim period that includes or is subsequent to March 12, 2020, up to the date that the financial statements are available to be issued. Once elected for a Topic or an Industry Subtopic, the amendments in this ASU must be applied prospectively for all eligible contract modifications for that Topic or Industry Subtopic. We expect application of the amendments to impact accounting for our senior secured revolving credit facility due June 2024. We are currently assessing the effect this ASU will have on our financial position, results of operations, and disclosures.

Recently Adopted Accounting Standards: In January 2020, the FASB issued ASU 2020-01, “Investments – Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815).” This ASU clarifies the interactions between the measurement alternative in Topic 321, the equity method of accounting in Topic 323 and the application of guidance for certain forward contracts and purchased options that upon settlement or exercise would be accounted for under the equity method of accounting in Topic 815. This guidance is effective for fiscal years ending after December 15, 2020. We adopted this guidance effective January 1, 2021. The adoption of this guidance did not have a material impact on our financial position, results of operations or disclosures.

In August 2018, the FASB issued ASU 2018-15, “Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.” This ASU clarifies the accounting treatment for implementation costs for cloud computing arrangements (hosting arrangements) that is a service contract. This guidance is effective for fiscal years beginning after December 15, 2019, including interim periods within that fiscal year. We adopted this guidance effective January 1, 2020. The adoption of this guidance did not have a material impact on our financial position, results of operations or disclosures.

In August 2018, the FASB issued ASU 2018-14, “Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans.” This ASU adds, modifies and clarifies several disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. This guidance is effective for fiscal years ending after December 15, 2020. We early adopted this guidance effective January 1, 2020. The adoption of this guidance did not have a significant impact on our annual disclosures.

In August 2018, the FASB issued ASU 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.” This ASU adds, modifies and removes several disclosure requirements relative to the three levels of inputs used to measure fair value in accordance with Topic 820, “Fair Value Measurement.” This guidance is effective for fiscal years beginning after December 15, 2019, including interim periods within that fiscal year. We adopted this guidance effective January 1, 2020. The adoption of this guidance did not impact our financial position, results of operations or disclosures.

In June 2016, the FASB issued ASU 2016-13, “Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments” and subsequently issued additional guidance that modified ASU 2016-13. ASU 2016-13 and the subsequent modifications are identified as ASC 326.” The standard requires an entity to change its accounting approach in determining impairment of certain financial instruments, including trade receivables, from an “incurred loss” to a “current expected credit loss” model. The standard will be effective for fiscal years beginning after December 15, 2019, including interim periods within such fiscal years. We adopted this guidance effective January 1, 2020. The adoption of this guidance did not have a material impact on our financial position, results of operations or disclosures. We maintain an allowance for doubtful accounts to provide for the estimated amount of receivables that will not be collected as discussed

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above. 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.

In February 2016, the FASB issued ASU 2016-02, “Leases (Topic 842)” and other subsequent amendments collectively identified as ASC 842, related to leases to increase transparency and comparability among organizations by requiring the recognition of right-of-use (“ROU”) assets and lease liabilities on the balance sheet. Effective January 1, 2019, (the “Commencement Date”), we adopted the new lease accounting standard using the modified retrospective transition option of applying the new standard at the adoption date for all leases with terms greater than 12 months. The adoption of the new standard resulted in the recording of operating ROU assets, primarily consisting of leased facilities and equipment and operating lease liabilities of \$34.8 as of the Commencement Date. The adoption did not have a material impact on our consolidated statement of income and comprehensive income or cash flows related to existing leases as of the Commencement Date. As a result, there was no cumulative-effect adjustment.

We elected certain practical expedients and as such did not reassess the following: 1) whether any expired or existing contracts are or contain leases, 2) lease classification for any expired or existing leases, 3) initial direct costs for any expired or existing leases and 4) whether existing or expired land easements are or contain leases. However, we will evaluate new or modified land easements under the new guidance after the Commencement Date. We also elected the practical expedient to not separate lease and non-lease components. In addition, we implemented internal controls and key system functionality to enable the preparation of financial information on adoption.

NOTE 3 — Discontinued Operations

Cryobiological Products Divestiture

On October 1, 2020, we closed on the sale of our cryobiological products business, which was formerly within our D&S West segment prior to the realignment of our segment reporting structuring in the fourth quarter of 2020 discussed in Note 4, “Segment and Geographic Information,” to Cryoport, Inc. (NASDAQ: CYRX) for net cash proceeds of \$317.5, inclusive of the base purchase price of \$320.0 less estimated closing adjustments of \$2.5 (the “Cryobiological Divestiture”). The strategic decision to divest of our cryobiological products business reflects our strategy and capital allocation approach to focus on our core capabilities and offerings. We recorded a gain on the Cryobiological Divestiture of \$224.2, net of taxes of \$25.2, for the year ended December 31, 2020. Interest expense of \$7.4 and \$10.6 was allocated to discontinued operations for the years ended December 31, 2020, and 2019, respectively, based on interest on our term loan due June 2024 that was required to be repaid as a result of the Cryobiological Divestiture.

CAIRE Divestiture

On December 20, 2018, we closed the sale of our oxygen-related products business, which was reported within our prior BioMedical segment, to NGK SPARK PLUG CO., LTD. for \$133.5 (the “CAIRE Divestiture”). The strategic decision to divest the oxygen-related products business reflects our strategy and capital allocation approach to focus on our core capabilities and offerings. We recorded a gain on the CAIRE Divestiture of \$34.3, net of taxes of \$2.6, for the year ended December 31, 2018. Interest expense of \$3.2 was allocated to discontinued operations for the year ended December 31, 2018 based on the net assets of the discontinued operations as a percentage of the net assets of Chart.

Both our cryobiological products business and oxygen-related products business asset groups met the criteria to be held for sale. Furthermore, we determined that the assets held for sale qualify for discontinued operations. As such, the financial results of the cryobiological products business and oxygen-related products business are reflected in our consolidated financial statements as discontinued operations for all periods presented with related operations. Furthermore, current and non-current assets and liabilities of discontinued operations for our cryobiological products business are reflected in the December 31, 2019 balance sheet.

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Summarized Financial Information of Discontinued Operations

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

	Year Ended December 31,		
	2020 ⁽¹⁾	2019 ⁽¹⁾	2018 ⁽²⁾
Sales	\$ 59.9	\$ 83.6	\$ 237.5
Cost of sales	31.8	44.3	159.5
Selling, general and administrative expenses	7.8	10.4	41.9
Amortization expense	—	—	2.3
Operating income ⁽³⁾	20.3	28.9	33.8
Interest expense, net	7.4	10.6	3.2
Other (income) expense, net	(0.8)	0.1	0.4
Income before income taxes	13.7	18.2	30.2
Income tax (benefit) expense	(1.3)	3.2	9.0
Income from discontinued operations before gain on sale of businesses	15.0	15.0	21.2
Gain on sale of businesses, net of taxes ⁽⁴⁾	224.2	—	34.3
Income from discontinued operations, net of tax	<u>\$ 239.2</u>	<u>\$ 15.0</u>	<u>\$ 55.5</u>

⁽¹⁾ Includes results of operations for the cryobiological products business only.

⁽²⁾ Includes results of operations for both the cryobiological products and oxygen-related products businesses.

⁽³⁾ Includes depreciation expense of \$0.7, \$1.1 and \$2.7 for the years ended December 31, 2020, 2019 and 2018, respectively.

⁽⁴⁾ Gain on sale of businesses is net of taxes of \$25.2 and \$2.6 for the years ended December 31, 2020 and 2018, respectively.

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The following table represents the assets and liabilities from discontinued operations and represents the statement of financial position for the cryobiological products business only:

	December 31, 2019
Accounts receivable, net	\$ 11.0
Inventories, net	9.4
Prepaid expenses	0.3
Other current assets	0.9
Current assets of discontinued operations	\$ 21.6
Property, plant, and equipment, net	\$ 6.8
Goodwill	33.5
Identifiable intangible assets, net	6.7
Non-current assets of discontinued operations	\$ 47.0
Accounts payable	\$ 4.2
Customer advances and billings in excess of contract revenue	0.1
Accrued salaries, wages, and benefits	1.5
Current portion of warranty reserve	0.1
Current liabilities of discontinued operations	\$ 5.9
Other long-term liabilities	\$ 0.2
Non-current liabilities of discontinued operations	\$ 0.2

The following table presents a summary of cash flows related to discontinued operations for the following periods:

	Year Ended December 31,		
	2020 ⁽¹⁾	2019 ⁽¹⁾	2018 ⁽²⁾
Net cash provided by (used in):			
Operating activities	\$ 18.3	\$ 16.6	\$ (11.8)
Investing activities	316.7	(0.9)	132.3
Net cash provided by discontinued operations	\$ 335.0	\$ 15.7	\$ 120.5

⁽¹⁾ Includes cash flows of the cryobiological products business only.

⁽²⁾ Includes cash flows of both the cryobiological products and oxygen-related products businesses.

NOTE 4 — Segment and Geographic Information

Prior to October 1, 2020, the structure of our internal organization was divided into the following reportable segments, which were also our operating segments: D&S East, D&S West, E&C Cryogenics and E&C FinFans.

Effective October 1, 2020, we changed our reportable segments to the following four reportable segments, which 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 and primarily serves the geographic regions of the Americas, Europe, Middle East and Asia, supplies bulk, microbulk and mobile equipment

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used in the storage, distribution, vaporization, and application of industrial gases. Our Heat Transfer Systems segment, which has principal operations in the United States, Europe and India and primarily serves the geographic regions of the Americas, Europe, Middle East and India, supplies mission critical engineered equipment and systems used in the separation, liquefaction, and purification of hydrocarbon and industrial gases that span gas-to-liquid applications. Our Specialty Products segment with locations globally supplies products used in our specialty market applications including hydrogen, HLNG vehicle tanks, food and beverage, space exploration, lasers, cannabis and water treatment, amongst others. Our Repair, Service & Leasing segment, which includes repair and service centers globally, provides installation, service, repair, maintenance, and refurbishment of cryogenic products as well as global equipment leasing solutions.

Corporate includes operating expenses for executive management, accounting, tax, treasury, corporate development, human resources, information technology, investor relations, legal, internal audit, and risk management. Corporate support functions are not currently allocated to the segments. All prior period amounts presented in the tables below have been reclassified based on our current reportable segments.

We evaluate performance and allocate resources based on operating income as determined in our consolidated statements of income.

Segment Financial Information

	Year Ended December 31, 2020						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Corporate	Consolidated
Sales	\$ 415.8	\$ 369.8	\$ 242.6	\$ 158.3	\$ (9.4)	\$ —	\$ 1,177.1
Depreciation and amortization expense	18.5	48.3	4.8	10.9	—	2.0	84.5
Operating income (loss) ⁽¹⁾⁽²⁾⁽³⁾	52.5	11.2	60.7	30.3	—	(62.5)	92.2

	Year Ended December 31, 2019						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Corporate	Consolidated
Sales	\$ 409.9	\$ 441.7	\$ 207.9	\$ 162.6	\$ (6.6)	\$ —	\$ 1,215.5
Depreciation and amortization expense	19.5	42.0	4.9	9.7	—	1.6	77.7
Operating income (loss) ⁽¹⁾⁽⁴⁾	25.7	17.7	48.1	27.9	—	(67.4)	52.0

	Year Ended December 31, 2018						
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Corporate	Consolidated
Sales	\$ 371.4	\$ 289.8	\$ 184.5	\$ 160.4	\$ (2.2)	\$ —	\$ 1,003.9
Depreciation and amortization expense	13.9	21.7	4.7	7.9	—	1.5	49.7
Operating income (loss) ⁽¹⁾⁽⁵⁾⁽⁶⁾	41.1	8.7	44.8	21.2	—	(51.3)	64.5

⁽¹⁾ Restructuring costs (credits) for the years ended:

- December 31, 2020 were \$13.6 (\$2.7 – Cryo Tank Solutions \$7.4 – Heat Transfer Systems, \$0.7 – Specialty Products, \$0.2 – Repair, Service & Leasing and \$2.6 – Corporate);
- December 31, 2019 were \$15.6 (\$9.1 – Cryo Tank Solutions, \$4.5 – Heat Transfer Systems, \$0.3 – Specialty Products, \$1.5 – Repair, Service & Leasing and \$0.2 – Corporate); and
- December 31, 2018 were \$4.3 (\$1.7 – Cryo Tank Solutions, \$0.7 – Heat Transfer Systems, \$(0.3) – Specialty Products, \$(0.1) – Repair, Service & Leasing and \$2.3 – Corporate).

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

- (2) Includes transaction-related costs of \$2.6 for the year ended December 31, 2020, which were mainly related to the Sustainable Energy Solutions, Inc., BlueInGreen, LLC and Alabama Trailers acquisitions.
- (3) Includes \$16.0 impairment of our trademarks and trade names indefinite-lived intangible assets related to the AXC business in our Heat Transfer Systems segment.
- (4) Includes transaction-related costs of \$5.4 for the years ended December 31, 2019, which were mainly related to the AXC acquisition. Includes transaction-related costs of \$4.3 related to integration activities for previous acquisitions for the year ended December 31, 2019.
- (5) Includes transaction-related costs of \$2.1 recorded in Corporate for the year ended December 31, 2018.
- (6) During the year ended December 31, 2018, we recorded net severance costs of \$2.3 in Corporate primarily related to headcount reductions associated with a previous strategic realignment of our segment structure, which includes \$1.8 in payroll severance costs partially offset by a \$0.9 credit due to related share-based compensation forfeitures for 2018. Includes net severance costs of \$1.4 related to the departure of our former CEO, which includes \$3.2 in payroll severance costs partially offset by a \$1.8 credit due to related share-based compensation forfeitures for 2018.

Sales by Geography

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

	Year Ended December 31, 2020					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America ⁽¹⁾	\$ 168.0	\$ 259.4	\$ 98.9	\$ 111.2	\$ (4.4)	\$ 633.1
Europe, Middle East, Africa and India	165.3	39.3	121.8	38.1	(3.5)	361.0
Asia-Pacific ⁽²⁾	76.1	69.3	21.4	8.4	(1.4)	173.8
Rest of the World	6.4	1.8	0.5	0.6	(0.1)	9.2
Total	\$ 415.8	\$ 369.8	\$ 242.6	\$ 158.3	\$ (9.4)	\$ 1,177.1

	Year Ended December 31, 2019					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America ⁽¹⁾	\$ 173.6	\$ 311.2	\$ 100.4	\$ 128.4	\$ (3.4)	\$ 710.2
Europe, Middle East, Africa and India	163.8	71.6	91.2	23.7	(2.2)	348.1
Asia-Pacific ⁽²⁾	67.2	57.3	15.6	9.7	(0.9)	148.9
Rest of the World	5.3	1.6	0.7	0.8	(0.1)	8.3
Total	\$ 409.9	\$ 441.7	\$ 207.9	\$ 162.6	\$ (6.6)	\$ 1,215.5

	Year Ended December 31, 2018					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
North America ⁽¹⁾	\$ 164.0	\$ 237.1	\$ 100.5	\$ 122.6	\$ (1.0)	\$ 623.2
Europe, Middle East, Africa and India	120.0	24.1	65.2	30.0	(0.9)	238.4
Asia-Pacific ⁽²⁾	83.8	27.2	18.3	7.1	(0.3)	136.1
Rest of the World	3.6	1.4	0.5	0.7	—	6.2
Total	\$ 371.4	\$ 289.8	\$ 184.5	\$ 160.4	\$ (2.2)	\$ 1,003.9

- ⁽¹⁾ Consolidated sales in the United States were \$576.8, \$638.0 and \$570.6 for the twelve month periods ending December 31, 2020, 2019 and 2018, respectively and represent 49.0%, 52.5% and 56.8% of consolidated sales for the same periods, respectively.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
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- (2) Consolidated sales in China were \$100.7, \$80.5 and \$101.6 for the twelve months ended December 31, 2020, 2019 and 2018, respectively and represent 8.6%, 6.6% and 10.1% of consolidated sales for the same periods, respectively.

In both 2020 and 2019, no single customer accounted for more than 10% of consolidated sales. Sales to Linde exceeded 10% of consolidated sales in 2018 on a combined basis and represented approximately \$119.9 or 11.9% of consolidated sales in 2018 (attributable to all of our segments).

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,	
	2020	2019
Cryo Tank Solutions	\$ 399.2	\$ 374.4
Heat Transfer Systems	247.2	328.9
Specialty Products	178.3	109.7
Repair, Service & Leasing	142.6	106.6
Total assets of reportable segments	967.3	919.6
Goodwill ⁽¹⁾	865.9	811.4
Identifiable intangible assets, net ⁽¹⁾	493.1	522.4
Corporate	244.2	159.4
Discontinued operations	—	68.6
Total assets	\$ 2,570.5	\$ 2,481.4

- (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,	
	2020	2019
United States	\$ 223.9	\$ 222.2
Foreign		
Italy	69.9	56.4
China	61.5	64.2
Czech Republic	29.0	25.8
Germany	16.1	15.5
India	14.1	13.7
Total Foreign	190.6	175.6
Total	\$ 414.5	\$ 397.8

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
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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, 2020					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
Point in time	\$ 378.3	\$ 28.6	\$ 184.6	\$ 110.3	\$ (4.5)	\$ 697.3
Over time	37.5	341.2	58.0	48.0	(4.9)	479.8
Total	\$ 415.8	\$ 369.8	\$ 242.6	\$ 158.3	\$ (9.4)	\$ 1,177.1

	Year Ended December 31, 2019					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
Point in time	\$ 385.2	\$ 26.3	\$ 161.2	\$ 117.6	\$ (5.2)	\$ 685.1
Over time	24.7	415.4	46.7	45.0	(1.4)	530.4
Total	\$ 409.9	\$ 441.7	\$ 207.9	\$ 162.6	\$ (6.6)	\$ 1,215.5

	Year Ended December 31, 2018					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Intersegment Eliminations	Consolidated
Point in time	\$ 366.9	\$ 60.3	\$ 150.3	\$ 102.5	\$ (2.2)	\$ 677.8
Over time	4.5	229.5	34.2	57.9	—	326.1
Total	\$ 371.4	\$ 289.8	\$ 184.5	\$ 160.4	\$ (2.2)	\$ 1,003.9

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, 2020	December 31, 2019	Year-to-date Change (\$)	Year-to-date Change (%)
Contract assets				
Accounts receivable, net of allowances	\$ 200.8	\$ 191.6	\$ 9.2	4.8 %
Unbilled contract revenue	79.4	86.1	(6.7)	(7.8)%
Contract liabilities				
Customer advances and billings in excess of contract revenue	\$ 118.9	\$ 127.7	\$ (8.8)	(6.9)%
Long-term deferred revenue	1.9	0.8	1.1	137.5 %

Revenue recognized for the years ended December 31, 2020 and 2019, that was included in the contract liabilities balance at the beginning of each year was \$101.2 and \$113.2, respectively. The amount of revenue recognized during the year ended December 31, 2020 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. Long-term deferred revenue is included in other long-term liabilities in the consolidated balance sheets for the years ended December 2020 and 2019.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

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, 2020, the estimated revenue expected to be recognized in the future related to remaining performance obligations was \$810.0. We expect to recognize revenue on approximately 81% of the remaining performance obligations over the next 12 months and 9% of the remaining performance obligations over the next 13 to 24 months, with the remaining balance recognized thereafter.

NOTE 6 — Investments

The following table summarizes the components of investments:

	December 31,	
	2020	2019
Investment in equity securities	\$ 73.6	\$ 6.9
Equity investments	5.3	6.5
Total investments	\$ 78.9	\$ 13.4

Investment in equity securities

During the fourth quarter of 2020, we completed an investment in HTEC Hydrogen Technology & Energy Corporation (“HTEC”) in the amount of CAD20 million (\$15.7) for 15.6% of its capital stock on a fully-diluted basis. This investment was measured at cost as of December 31, 2020. HTEC designs, builds, and operates hydrogen fuel supply solutions to support the deployment of hydrogen fuel cell electric vehicles. It has significant hydrogen development experience in the Canadian market, with signed contracts for numerous projects across the country.

Also, during the fourth quarter of 2020, we made an investment in McPhy (Euronext Paris: MCPHY – ISIN; FR0011742329) by subscribing to 1,276,595 shares for 30 million euros (\$35.1). As of December 31, 2020 we hold 4.6% of the capital of McPhy and, the value of the investment was \$53.8, which reflects a \$17.0 unrealized gain recognized from the subsequent mark-to-market for the year ended December 31, 2020. Gains and losses for this investment in equity securities were recorded in unrealized (gain) loss on investment in equity securities on the consolidated statement of income and comprehensive income during the year ended December 31, 2020.

During the third quarter of 2019, we made an investment in Stabilis Energy, Inc. (“Stabilis”) by converting \$7.0 of a note receivable from Stabilis into an investment in their company stock. As of December 31, 2020, the value of the investment was \$4.1, which reflects a \$2.9 unrealized loss recognized from the subsequent mark-to-market for the year ended December 31, 2020. As of December 31, 2019, the value of the investment was \$6.9, which reflected a \$0.1 unrealized loss recognized from the subsequent mark-to-market for the year ended December 31, 2019. Gains and losses for this investment in equity securities were recorded in unrealized (gain) loss on investment in equity securities on the consolidated statements of income and comprehensive income during the years ended December 31, 2020 and 2019.

We measure our investments at fair value on a recurring basis. Furthermore, we categorize our investments according to the fair value hierarchy as defined in Note 2, “Significant Accounting Policies.” Since quoted prices in an active market are observable, we measured the fair value of our investment in McPhy as a Level 1 investment in the December 31, 2020 consolidated balance sheet. We measured the fair value of our investment in Stabilis as a Level 2 investment in the consolidated balance sheets for the periods presented because we are able to observe quoted prices for identical assets in markets that are not active, i.e., Stabilis common stock trades in a dealer market as defined in ASC Topic 820 “Fair Value Measurement,” and by nature, dealers stand ready to trade, yet the market is not active. Lastly, we measure our investment in HTEC 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. As such, we consider our investment in HTEC a Level 3 investment in the December 31, 2020 consolidated balance sheet. We reassess measurement options for the HTEC investment on a quarterly basis.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

Equity method accounting investments

Our equity investments accounted for under the equity method of accounting include a 50% ownership interest in a joint venture with Hudson Products de Mexico, S.A. de C.V., which totaled \$2.8 and \$2.9 for the years ended December 31, 2020 and 2019, respectively. This investment is operated and managed by our joint venture partner and as such, we do not have control over the joint venture and therefore is not consolidated. Our equity in earnings from this investment was \$0.3, \$0.2 and \$0.6 for the years ended December 31, 2020, 2019 and 2018, respectively. Earnings in this investment are classified in unrealized (gain) loss on investment in equity securities in the consolidated statements of income for the year ended December 31, 2020. Earnings in this investment is classified in SG&A expenses in the consolidated statements of income for the years ended 2019 and 2018.

Additionally, we have a 25% ownership interest in Liberty LNG which we invested in during the third quarter of 2019 which totaled \$2.1 and \$3.3 at December 31, 2020 and 2019, respectively. Losses for 2020 were \$1.0 and earnings for 2019 were not material. Earnings in this investment are classified in unrealized (gain) loss on investment in equity securities in the consolidated statements of income for the years ended December 31, 2020 and 2019.

NOTE 7 — Inventories

The following table summarizes the components of inventory:

	December 31,	
	2020	2019
Raw materials and supplies	\$ 124.7	\$ 97.9
Work in process	57.8	47.2
Finished goods	65.9	64.9
Total inventories, net	<u>\$ 248.4</u>	<u>\$ 210.0</u>

The allowance for excess and obsolete inventory balance at December 31, 2020 and 2019 was \$9.7 and \$10.6, respectively.

NOTE 8 — Property, Plant and Equipment

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

Classification	Estimated Useful Life	December 31,	
		2020	2019
Land and buildings	20-35 years	\$ 346.5	\$ 323.0
Machinery and equipment	3-12 years	214.4	198.6
Computer equipment, furniture and fixtures	3-7 years	40.8	45.5
Right-of-use assets		44.4	42.3
Construction in process		18.2	21.0
Total property, plant and equipment, gross		664.3	630.4
Less: accumulated depreciation		(249.8)	(232.6)
Total property, plant and equipment, net		<u>\$ 414.5</u>	<u>\$ 397.8</u>

Depreciation expense was \$38.8, \$37.9 and \$27.8 for the years ended December 31, 2020, 2019 and 2018, respectively.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
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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 2020 ⁽¹⁾:

	D&S East	D&S West	E&C Cryogenics	E&C FinFans	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Consoli- dated
Goodwill, net balance at December 31, 2019	\$ 117.0	\$ 118.6	\$ 176.2	\$ 399.6	\$ —	\$ —	\$ —	\$ —	\$ 811.4
Foreign currency translation adjustments and other	4.5	—	—	1.3	—	—	—	—	5.8
Purchase price adjustments	—	—	—	0.4	—	—	—	—	0.4
Goodwill, net balance at September 30, 2020	121.5	118.6	176.2	401.3	—	—	—	—	817.6
Reallocation, D&S East	(121.5)	—	—	—	43.3	—	64.6	13.6	—
Reallocation, D&S West	—	(118.6)	—	—	43.2	—	63.6	11.8	—
Reallocation, E&C Cryogenics	—	—	(176.2)	—	—	137.0	5.6	33.6	—
Reallocation, E&C FinFans	—	—	—	(401.3)	—	295.6	—	105.7	—
Goodwill, net balance at October 1, 2020	—	—	—	—	86.5	432.6	133.8	164.7	817.6
Foreign currency translation adjustments and other	—	—	—	—	6.7	2.6	(0.2)	0.4	9.5
Goodwill acquired during the period	—	—	—	—	—	—	38.8	—	38.8
Goodwill, net balance at December 31, 2020	\$ —	\$ —	\$ —	\$ —	\$ 93.2	\$ 435.2	\$ 172.4	\$ 165.1	\$ 865.9
Accumulated goodwill impairment loss at December 31, 2019	\$ —	\$ 64.4	\$ 40.9	\$ 23.7	\$ —	\$ —	\$ —	\$ —	\$ 129.0
Accumulated goodwill impairment loss at September 30, 2020	—	64.4	40.9	23.7	—	—	—	—	129.0
Reallocation, D&S West	—	(64.4)	—	—	23.5	—	34.5	6.4	—
Reallocation, E&C Cryogenics	—	—	(40.9)	—	—	31.8	1.3	7.8	—
Reallocation, E&C FinFans	—	—	—	(23.7)	—	17.5	—	6.2	—
Accumulated goodwill impairment loss at December 31, 2020	\$ —	\$ —	\$ —	\$ —	\$ 23.5	\$ 49.3	\$ 35.8	\$ 20.4	\$ 129.0

⁽¹⁾ The prior segments’ goodwill and accumulated goodwill impairment loss at December 31, 2019 were reassigned to four new reporting units, Cryo Tank Solutions, Heat Transfer Systems, Specialty Products and Repair, Service & Leasing, based on their relative fair values as of October 1, 2020.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

The following table represents the activity in goodwill, net and accumulated goodwill impairment loss by segment for 2019 ⁽¹⁾:

	D&S East	D&S West	E&C	E&C Cryogenics	E&C FinFans	Consolidated
Goodwill, net balance at December 31, 2018	\$ 73.6	\$ 117.8	\$ 295.8	\$ —	\$ —	\$ 487.2
Reallocation, E&C	—	—	(295.8)	183.5	112.3	—
Foreign currency translation adjustments and other	(0.9)	—	—	(0.6)	(0.2)	(1.7)
Goodwill acquired during the year	—	—	—	—	287.5	287.5
Purchase price adjustments ⁽²⁾	44.3	0.8	—	(6.7)	—	38.4
Goodwill, net balance at December 31, 2019	\$ 117.0	\$ 118.6	\$ —	\$ 176.2	\$ 399.6	\$ 811.4
Accumulated goodwill impairment loss at December 31, 2018	\$ —	\$ 64.4	\$ 64.6	\$ —	\$ —	\$ 129.0
Accumulated goodwill impairment loss at December 31, 2019	\$ —	\$ 64.4	\$ —	\$ 40.9	\$ 23.7	\$ 129.0

⁽¹⁾ The prior E&C segment goodwill and accumulated goodwill impairment loss at December 31, 2018 were reassigned to two reporting units, E&C Cryogenics and E&C FinFans, based on their relative fair values as of July 1, 2019.

⁽²⁾ During 2019, we recorded purchase price adjustments related to previous acquisitions including an increase of \$44.3 in D&S East, a decrease of \$6.7 in E&C Cryogenics and an increase of \$0.8 in D&S West.

As discussed in Note 4, “Segment and Geographic Information,” we reorganized our reporting structure such that the composition of our reporting units changed effective October 1, 2020, which was also the goodwill reassignment date. We determined the fair values of each of our prior reporting units as of the goodwill reassignment date to assess whether there was an indication of impairment before and after the reassignment. We performed a goodwill impairment Step 1 test, as defined in Note 2, “Significant Accounting Policies” on each of our previous reporting units prior to the goodwill reassignment and determined that their fair values were in excess of their respective carrying amounts as of October 1, 2020. Furthermore, we performed a goodwill impairment Step 1 test on the new reporting units after the goodwill reassignment and determined that their fair values were in excess of their respective carrying amounts as of October 1, 2020.

On September 30, 2020, we allocated a portion of the D&S West reporting unit’s goodwill to the cryobiological products business asset group on a relative fair value basis. Refer to Note 3, “Discontinued Operations” for further information. We determined the fair value of D&S West reporting unit as of the goodwill reassignment date to assess whether there was an indication of impairment before the reassignment. We performed an interim goodwill impairment Step 1 test, as defined in our Note 2, “Significant Accounting Policies” on the D&S West reporting unit prior to the goodwill reassignment and determined that its fair value was substantially in excess of its carrying amount as of September 30, 2020.

Furthermore, when a portion of goodwill is allocated to an asset group to be disposed of, we test the goodwill remaining in the portion of the reporting unit to be retained for impairment. We elected to perform an interim goodwill Step 0 Test, as defined in Note 2, “Significant Accounting Policies” on the D&S West reporting unit after the goodwill reassignment. As a result of the Step 0 Test, no impairment of the D&S West reporting unit after the goodwill reassignment was indicated.

Intangible Assets

We recorded an impairment loss of \$16.0 during 2020 relative to our \$55.0 trademarks and trade names indefinite-lived intangible asset of our AXC business (“AXC Intangible Asset”) in our Heat Transfer Systems segment. Industry-wide softness in demand for midstream and upstream compression equipment represented impairment indicators requiring us to re-evaluate the fair value of the AXC Intangible Asset. We determined the fair value of the AXC Intangible Asset under the relief-from-royalty method and conducted an impairment test as defined in Note 2, “Significant Accounting Policies.” We determined that the fair value of the AXC Intangible Asset was \$39.0 and impaired the AXC Intangible Asset by a value equal to the difference in the carrying amount and calculated fair value.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

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⁾:

	Weighted-average Estimated Useful Life	December 31, 2020		December 31, 2019	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets:					
Customer relationships	13 years	\$ 302.5	\$ (59.9)	\$ 380.3	\$ (115.0)
Unpatented technology	13 years	110.4	(22.3)	90.1	(13.0)
Patents and other	5 years	8.4	(1.8)	20.9	(9.8)
Trademarks and trade names	14 years	3.6	(1.4)	2.4	(1.2)
Land rights	50 years	11.1	(1.4)	11.0	(1.2)
Total finite-lived intangible assets	13 years	\$ 436.0	\$ (86.8)	\$ 504.7	\$ (140.2)
Indefinite-lived intangible assets:					
Trademarks and trade names		\$ 143.9	\$ —	\$ 157.9	\$ —
Total intangible assets		\$ 579.9	\$ (86.8)	\$ 662.6	\$ (140.2)

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

Amortization expense for intangible assets subject to amortization was \$45.7, \$39.8 and \$21.9 for the years ended December 31, 2020, 2019 and 2018, respectively. We estimate amortization expense to be recognized during the next five years as follows:

For the Year Ending December 31,

2021	\$ 36.7
2022	34.5
2023	34.4
2024	34.0
2025	33.1

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

Government Grants

We received certain government grants related to land use rights for capacity expansion in China (“China Government Grants”). China Government Grants are generally recorded in other current liabilities and other long-term liabilities in the consolidated balance sheets and generally recognized into income over the useful life of the associated assets (10 to 50 years).

China Government Grants are presented in our consolidated balance sheets as follows:

	December 31,	
	2020	2019
Current	\$ 0.5	\$ 0.5
Long-term	7.3	7.2
Total China Government Grants	\$ 7.8	\$ 7.7

We also received government grants from certain local jurisdictions within the United States, which are recorded in other assets in the consolidated balance sheets and were not significant for the periods presented.

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NOTE 10 — Debt and Credit Arrangements

Summary of Outstanding Borrowings

The following table represents the components of our borrowings:

	December 31,	
	2020	2019
Senior secured revolving credit facilities and term loan:		
Term loan due June 2024 ⁽¹⁾	\$ 103.1	\$ 447.2
Senior secured revolving credit facility due June 2024 ⁽²⁾	123.5	119.0
Unamortized debt issuance costs	(5.0)	(5.5)
Senior secured revolving credit facility and term loan, net of debt issuance costs	<u>221.6</u>	<u>560.7</u>
Convertible notes due November 2024:		
Principal amount	258.8	258.8
Unamortized discount	(34.8)	(42.8)
Unamortized debt issuance costs	(3.1)	(3.8)
Convertible notes due November 2024, net of unamortized discount and debt issuance costs	<u>220.9</u>	<u>212.2</u>
Foreign facilities	—	4.4
Total debt, net of unamortized discount and debt issuance costs	<u>442.5</u>	<u>777.3</u>
Less: current maturities ⁽³⁾	<u>220.9</u>	<u>16.3</u>
Long-term debt	<u>\$ 221.6</u>	<u>\$ 761.0</u>

⁽¹⁾ As of December 31, 2020, there was \$103.1 in borrowings outstanding under the term loan bearing an interest rate of 2.50%.

⁽²⁾ The senior secured revolving credit facility due 2024 includes \$100.0 sub limit for letters of credit, a \$250.0 sub limit for discretionary letters of credit and a \$50.0 sub-limit for swingline loans. As of December 31, 2020, there was \$123.5 in borrowings outstanding under the senior secured revolving credit facility due 2024 bearing a weighted-average interest rate of 2.1% and \$63.3 in letters of credit and bank guarantees outstanding supported by the senior secured revolving credit facility due 2024. As of December 31, 2020, the senior secured revolving credit facility due 2024 had availability of \$363.2.

⁽³⁾ Current maturities includes \$220.9 current convertible notes at December 31, 2020.

As of December 31, 2020, total scheduled maturities were \$485.4. There are no scheduled principal payments for any of our debt instruments until June 2024. The \$258.8 principal balance of the convertible notes due November 2024 will mature on November 15, 2024, yet the carrying amount of the convertible notes due November 2024 is treated as current for financial statement reporting purposes. Cash paid for interest during the years ended December 31, 2020, 2019 and 2018 was \$18.1, \$17.7, and \$15.9, respectively.

Senior Secured Revolving Credit Facility and Term Loan

Our Fourth Amended and Restated Credit Agreement as amended includes a senior secured revolving credit facility (the “SSRCF”) and a term loan (together, the “2024 Credit Facilities”). The 2024 Credit Facilities mature on June 14, 2024.

- The SSRCF has a borrowing capacity of \$550.0.
- The term loan has a borrowing capacity of \$450.0.
- The 2024 Credit Facilities bear interest at a base rate margin determined on a leveraged-based scale which ranges from 25 to 125 basis points for alternative base rate loans and 125 to 225 basis points for LIBOR loans.
- Interest and fees are payable on a quarterly basis (or if earlier, at the end of each interest period for LIBOR loans).

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Significant financial covenants for the 2024 Credit Facilities include financial maintenance covenants that, as of the last day of any fiscal quarter ending on and after June 30, 2019, (i) require the ratio of the amount of Chart and its subsidiaries' consolidated total net indebtedness to consolidated EBITDA to be less than specified maximum 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 a specified minimum ratio level. The 2024 Credit Facilities include 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, 2020, we were in compliance with all covenants.

The 2024 Credit Facilities also contain 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 2024 Credit Facilities are guaranteed by Chart and substantially all of its U.S. subsidiaries and secured by substantially all of the assets of Chart and our U.S. subsidiaries and 65% of the capital stock of our material non-U.S. subsidiaries (as defined by the Fourth Amended and Restated Credit Agreement) that are owned by U.S. subsidiaries.

Deferred debt issuance costs associated with the term loan were \$7.0 and \$6.1 at December 31, 2020 and 2019, respectively. Deferred debt issuance costs associated with the term loan are included in long-term debt in the consolidated balance sheets at December 31, 2020 and 2019, and are being amortized over its five-year term beginning in July 2019. Unamortized debt issuance costs associated with the term loan were \$5.0 and \$5.5 at December 31, 2020 and 2019, respectively.

Deferred debt issuance costs associated with the SSRCF as amended were \$11.1 and \$10.0 at December 31, 2020 and 2019, respectively. Deferred debt issuance costs associated with the SSRCF are presented in other assets in the consolidated balance sheets at December 31, 2020 and 2019 and are being amortized over the term of the SSRCF. Unamortized debt issuance costs associated with the SSRCF were \$7.8 and \$9.5 at December 31, 2020 and 2019, respectively.

The following table summarizes interest expense and financing costs amortization related to the 2024 Credit Facilities and our previous senior secured revolving credit facility:

	Year Ended December 31,		
	2020	2019	2018
Interest expense, term loan due June 2024	\$ 4.8	\$ 3.1	\$ —
Interest expense, senior secured revolving credit facilities	2.2	2.2	11.8
Interest expense, senior secured revolving credit facilities and term loan due June 2024	<u>\$ 7.0</u>	<u>\$ 5.3</u>	<u>\$ 11.8</u>
Financing costs amortization, senior secured revolving credit facilities and term loan due 2024	<u>\$ 3.6</u>	<u>\$ 2.0</u>	<u>\$ 0.6</u>

2024 Convertible Notes

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"). The 2024 Notes bear interest at an annual rate of 1.00%, payable on May 15 and November 15 of each year, beginning on May 15, 2018, and will mature on November 15, 2024 unless earlier converted or repurchased.

The 2024 Notes are senior subordinated unsecured obligations of the Company and are not guaranteed by any of our subsidiaries. The 2024 Notes are senior in right of payment to our future subordinated debt, equal in right of payment with the Company's future senior subordinated debt and are subordinated in right of payment to our existing and future senior indebtedness, including indebtedness under our existing credit agreement.

On December 31, 2020, we entered into the First Supplemental Indenture (the "Supplemental Indenture") to the Indenture, between Chart and Wells Fargo Bank, National Association, as trustee, governing the 2024 Notes. Pursuant to the Supplemental Indenture, Chart irrevocably elected (i) to eliminate Chart's option to elect Physical Settlement (as defined in the Indenture) on any conversion of 2024 Notes that occurs on or after the date of the Supplemental Indenture and (ii) that, with

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respect to any Combination Settlement (as defined in the Indenture) for a conversion of 2024 Notes, the Specified Dollar Amount (as defined in the Indenture) that will be settled in cash per \$1,000 principal amount of the Notes shall be no lower than \$1,000. Prior to December 31, 2020, a conversion of the 2024 Notes could have been settled in cash, shares of our common stock or a combination of cash and shares of our common stock, at our election (subject to, and in accordance with, the settlement provisions of the Indenture). After December 31, 2020, a conversion of the 2024 Notes may be settled in either (1) cash or (2) cash for the principal amount of the 2024 Notes and any combination of cash and shares for the excess settlement amount above the principal amount of the 2024 Notes, at our election (subject to, and in accordance with, the settlement provisions of the Indenture and Supplemental Indenture).

The initial conversion rate for the 2024 Notes is 17.0285 shares of common stock (subject to adjustment as provided for in the Indenture) per \$1,000 principal amount of the 2024 Notes, which is equal to an initial conversion price of approximately \$58.725 per share, representing a conversion premium of approximately 35% above the closing price of our common stock of \$43.50 per share on October 31, 2017. In addition, following certain corporate events that occur prior to the maturity date as described in the Indenture, we will pay a make-whole premium by increasing the conversion rate for a holder who elects to convert its 2024 Notes in connection with such a corporate event in certain circumstances. For purposes of calculating earnings per share, if the average market price of our common stock exceeds the applicable conversion price during the periods reported, shares contingently issuable under the 2024 Notes will have a dilutive effect with respect to our common stock. Because our closing common stock price of \$117.79 at the end of the period exceeded the conversion price of \$58.725, the if-converted value exceeded the principal amount of the 2024 Notes by approximately \$260.2 at December 31, 2020. As described below, we entered into convertible note hedge transactions, which are expected to reduce the potential dilution with respect to our common stock upon conversion of the 2024 Notes.

Holders of the 2024 Notes may convert their 2024 Notes at their option at any time prior to the close of business on the business day immediately preceding August 15, 2024 only under the following circumstances: (1) during any fiscal quarter commencing after December 31, 2017 (and only during such fiscal quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding fiscal quarter is greater than or equal to 130% of the applicable conversion price for the 2024 Notes on each applicable trading day; (2) during the five business day period after any 10 consecutive trading day period (the “measurement period”) in which the “trading price” (as defined in the Indenture) per one thousand U.S. dollar principal amount of Notes for each trading day of such measurement period was less than 97% of the product of the last reported sale price of our common stock and the applicable conversion rate for the 2024 Notes on each such trading day; or (3) upon the occurrence of specified corporate events described in the Indenture. On or after August 15, 2024 until the close of business on the second scheduled trading day immediately preceding November 15, 2024, holders may convert their 2024 Notes at the option of the holder regardless of the foregoing circumstances.

As of January 1, 2021, the 2024 Notes were convertible at the option of the shareholders. This conversion right, which will remain available until March 31, 2021, was triggered since the closing price of our common stock was greater than or equal to \$76.3425 (130% of the conversion price of the 2024 Notes) for at least 20 trading days during the last 30 trading days ending on December 31, 2020. Since the holders of the 2024 Notes could potentially convert their 2024 Notes at their option during the three month period subsequent to December 31, 2020, the \$220.9 long-term liability component of the 2024 Notes was classified as a current liability in the consolidated balance sheet at December 31, 2020. We will reassess the convertibility of the 2024 Notes and the related balance sheet classification on a quarterly basis. There have been no conversions as of the date of this filing.

We allocated the gross proceeds of the 2024 Notes between the liability and equity components of the 2024 Notes. The initial liability component of \$200.1, which was recorded as long-term debt, represents the fair value of similar debt instruments that have no conversion rights. The initial equity component of \$58.7, which was recorded as additional paid-in capital, represents the debt discount and was calculated as the difference between the fair value of the liability component and gross proceeds of the 2024 Notes. The liability component was recognized at the present value of its associated cash flows using a 4.8% straight-debt rate (as defined in Note 2) and is being accreted to interest expense over the term of the 2024 Notes.

We recorded \$5.3 in deferred debt issuance costs associated with the 2024 Notes, which are being amortized over the term of the 2024 Notes using the effective interest method. We also recorded \$1.5 in equity issuance costs, which was recorded as a reduction to additional paid-in capital in the consolidated balance sheets.

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The following table summarizes interest accretion of the 2024 Notes discount, 1.0% contractual interest coupon and financing costs amortization associated with the 2024 Notes:

	Year Ended December 31,	
	2020	2019
2024 Notes, interest accretion of convertible notes discount	\$ 8.0	\$ 7.6
2024 Notes, 1.0% contractual interest coupon	2.6	2.6
2024 Notes, total interest expense	<u>\$ 10.6</u>	<u>\$ 10.2</u>
2024 Notes, financing costs amortization	<u>\$ 0.7</u>	<u>\$ 0.7</u>

Convertible Note Hedge and Warrant Transactions Associated with the 2024 Notes

In connection with the pricing of the 2024 Notes, we entered into convertible note hedge transactions (the “Note Hedge Transactions”) with certain parties, including the initial purchasers of the 2024 Notes (the “Option Counterparties”). The Note Hedge Transactions are expected generally to reduce the potential dilution upon any future conversion of the 2024 Notes. Payments for the Note Hedge Transactions totaled approximately \$59.5 and were recorded as a reduction to additional paid-in capital in the December 31, 2017 consolidated balance sheet.

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. Proceeds received from the issuance of the Warrant Transactions totaled approximately \$46.0 and were recorded as an addition to additional paid-in capital in the December 31, 2017 consolidated balance sheet. The strike price of the Warrant Transactions will initially be \$71.775 per share (subject to adjustment), which is approximately 65% above the last reported sale price of our common stock on October 31, 2017. The Warrant Transactions could have a dilutive effect to our stockholders to the extent that the market price per share of our common stock, as measured under the terms of the Warrant Transactions, exceeds the applicable strike price of the warrants.

The Note Hedge Transactions and Warrant Transactions effectively increased the conversion price of the 2024 Notes. The net cost of the Note Hedge Transactions and Warrant Transactions was approximately \$13.5.

Foreign 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, 2019, we had U.S. dollar (“USD”) equivalent \$4.4 in borrowings outstanding under these facilities (none outstanding as of December 31, 2020). The weighted-average interest rate on these borrowings was 1.3% as of December 31, 2019. As of December 31, 2020 and 2019, we had additional capacity of USD equivalent \$77.4 and \$23.1, respectively. Chart had foreign letters of credit and bank guarantees totaling USD equivalent \$47.7 and \$12.6 as of December 31, 2020 and 2019, respectively.

Letters of Credit

Chart Energy & Chemicals, Inc., a wholly-owned subsidiary of the Company, had \$1.0 in deposits in a bank outside of the SSRCF to secure letters of credit at both December 31, 2020 and 2019. The deposits are treated as restricted cash and restricted cash equivalents in the consolidated balance sheets (\$1.0 in other current assets at December 31, 2020 and \$1.0 in other assets at December 31, 2019).

Fair Value Disclosures

The fair value of the 2024 Notes was approximately 210% and 132% of their par value as of December 31, 2020 and 2019, respectively. The 2024 Notes are actively quoted instruments and, accordingly, the fair value of the 2024 Notes was determined using Level 1 inputs.

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NOTE 11 — Financial Instruments and Derivative Financial Instruments

Concentrations of Credit Risks: We sell our products to gas producers, distributors and end-users across the industrial gas, hydrocarbon, chemical processing, respiratory therapy, and cryobiological storage industries in countries all over the world. Approximately 51%, 48%, and 43% of sales were to customers in foreign countries in 2020, 2019 and 2018, respectively.

In 2020 and 2019, no single customer accounted for more than 10% of consolidated sales. Sales to Linde exceeded 10% of consolidated sales in 2018 on a combined basis and represented approximately \$119.9 or 11.9% of consolidated sales in 2018 (attributable to all of our segments). Sales to our top ten customers accounted for 42%, 34% and 41% of consolidated sales in 2020, 2019 and 2018, respectively. Our sales to particular customers fluctuate from period to period, but the large industrial gas producer and distributor customers of ours tend to be a consistently large 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.

The changes in fair value with respect to our foreign currency forward contracts generated a net gain of \$1.3 for the year ended December 31, 2020, a net gain of \$0.7 for the year ended December 31, 2019 and a net loss of \$0.8 for the year ended December 31, 2018. Changes in the fair value of our foreign currency forward contracts are recorded in the consolidated statements of income as foreign currency gains or losses.

NOTE 12 — Product Warranties

We provide product warranties with varying terms and durations for the majority of our products. We estimate our warranty reserve by considering historical and projected warranty claims, historical and projected cost-per-claim, and knowledge of specific product issues that are outside our typical experience. We record warranty expense in cost of sales in the consolidated statements of income. Product warranty claims not expected to occur within one year are included as part of other long-term liabilities in the consolidated balance sheets.

The following table represents changes in our consolidated warranty reserve:

	Year Ended December 31,		
	2020	2019	2018
Beginning balance	\$ 11.5	\$ 8.7	\$ 11.6
Issued – warranty expense	6.6	7.4	4.9
Change in estimate – warranty expense	—	—	(1.6)
Warranty usage	(6.2)	(4.6)	(6.2)
Ending balance	<u>\$ 11.9</u>	<u>\$ 11.5</u>	<u>\$ 8.7</u>

NOTE 13 — Business Combinations

Sustainable Energy Solutions, Inc. Acquisition

On December 23, 2020, we completed the acquisition of Sustainable Energy Solutions, Inc. (“SES”). SES’s Cryogenic Carbon Capture™ (CCC) technology eliminates most emissions from fossil fuels while enabling better use of intermittent renewables through grid-scale energy storage. The stock purchase was completed for a closing purchase price of \$20.0 in cash at closing, subject to a post closing working capital adjustment, plus a potential earn-out not to exceed \$25.0. The preliminary estimated fair value of the net assets acquired and goodwill at the date of acquisition was \$13.4 and \$24.0, respectively. Net assets includes \$17.3 in intangible assets, which consists of unpatented technology, trade names and non-compete contracts.

BlueInGreen, LLC Acquisition

On November 3, 2020, we completed the acquisition of BlueInGreen, LLC (“BIG”), a leading dissolved-gas expert providing custom-engineered solutions for water treatment and industrial process applications that delivers tangible economic, social and environmental value. The stock purchase was completed for a purchase price of \$20.0 in cash at closing (subject to

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customary adjustments), plus a potential earn-out not to exceed \$6.0. The preliminary estimated fair value of the net assets acquired and goodwill at the date of acquisition was \$8.8 and \$14.8, respectively. Net assets includes \$6.8 in intangible assets, which consists of non-compete contracts, unpatented technology, trademarks and trade names, certifications and licenses and customer relationships.

Alabama Trailers Acquisition

On October 13, 2020, we completed the acquisition of the Theodore, Alabama cryogenic trailer and hydrogen trailer (transport) assets of Worthington Industries, Inc. (NYSE: WOR) for \$10.0 in cash (“Alabama Trailers”). Worthington Industries, Inc. made the decision to exit the hydrogen trailer business. With few buyers of this specialized business, Worthington Industries, Inc. sold the trailer business to us at a discount. As a result of the acquisition, we recorded a bargain purchase gain of \$5.0. Alabama Trailers designs, manufactures and sells cryogenic trailers and hydrogen trailers used in industrial gas and energy applications.

The purchase price allocations of SES, BIG and Alabama Trailers are preliminary and are based on provisional fair values and subject to revision as we finalize third-party valuations and other analyses. Final determination of the fair values may result in further adjustments to the value of net assets acquired.

Air-X-Changers Acquisition

On July 1, 2019, we completed the acquisition of AXC pursuant to the previously disclosed Asset Purchase Agreement dated as of May 8, 2019 (the “AXC acquisition”). The purchase price for AXC was \$599.7, including post-closing purchase price adjustments with respect to working capital. We paid \$592.0 of the purchase price at closing and the final working capital adjustment of \$7.7 was paid during the third quarter of 2019. We financed the purchase price for the AXC acquisition with proceeds from borrowings under the 2024 Credit Facilities and a public offering of Chart’s common stock in 2019. See Note 10, “Debt and Credit Arrangements” and Note 14, “Accumulated Other Comprehensive Income (Loss) and Equity” for further information.

AXC is a leading supplier of custom engineered and manufactured air cooled heat exchangers for the natural gas compression and processing industry and refining and petrochemical industry in the United States. The air cooled heat exchangers offered by AXC are used in conditioning natural gas during recovery, compression and transportation from underground reserves through major pipeline distribution channels. In addition to natural gas compression and processing, AXC’s products are also used in the turbine lube oil cooling, landfill gas compression and liquids cooling industries. AXC’s end markets include process industries, power generation and refineries. AXC was combined with Chart’s Hudson Products and Chart Cooler Service businesses and its results are included in our Heat Transfer Systems segment from the date of acquisition.

As defined in our significant policies for fair value measurements in Note 2, “Significant Accounting Policies” we allocated the acquisition consideration to tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The fair value of the acquired tangible and identifiable intangible assets were determined based on inputs that are unobservable and significant to the overall fair value measurement. It is also based on estimates and assumptions made by management at the time of the acquisition. As such, this was classified as Level 3 fair value hierarchy measurements and disclosures.

We estimated the fair value of acquired unpatented technology and trademarks 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 estimated useful lives of identifiable finite-lived intangible assets range from one to 14 years.

The excess of the purchase price over the estimated fair values was assigned to goodwill. The estimated goodwill was established due to benefits including the combination of strong engineering and manufacturing cultures which will continue to further develop full service solutions for our worldwide customer base, as well as the benefits derived from the anticipated synergies of AXC integrating with our Heat Transfer Systems segment. Goodwill recorded for the AXC acquisition is deductible for tax purposes.

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The purchase price allocation reported at December 31, 2019 was preliminary and was based on provisional fair values. During the first six months of 2020 and prior to July 1, 2020, we received and analyzed new information about certain property, plant and equipment and subsequently increased associated deferred tax liabilities by \$0.4.

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

	As Reported December 31, 2019	Adjustments	Fair Value
Net assets acquired:			
Identifiable intangible assets	\$ 256.4	\$ —	\$ 256.4
Goodwill	287.5	0.4	287.9
Property, plant and equipment	34.2	—	34.2
Other assets	53.1	—	53.1
Liabilities	(31.5)	(0.4)	(31.9)
Net assets acquired	<u>\$ 599.7</u>	<u>\$ —</u>	<u>\$ 599.7</u>

Information regarding identifiable intangible assets acquired in the AXC acquisition is presented below:

	Weighted-average Estimated Useful Life	Estimated Asset Fair Value
Finite-lived intangible assets:		
Customer relationships	14.0 years	\$ 139.1
Unpatented technology	10.0 years	42.1
Backlog ⁽¹⁾	1.0 year	19.2
Other identifiable intangible assets ⁽¹⁾	4.0 years	1.0
Total finite-lived intangible assets acquired	<u>11.0 years</u>	<u>201.4</u>
Indefinite-lived intangible assets:		
Trademarks and trade names		55.0
Total identifiable intangible assets acquired		<u>\$ 256.4</u>

⁽¹⁾ Backlog and other identifiable intangible assets is included in “Patents and other” in Note 9, “Goodwill and Intangible Assets.”

For the year ended December 31, 2019, net sales, operating income and intangible assets amortization expense attributed to the acquired AXC operations was \$103.1, \$4.6 and \$16.8, respectively. During the year ended December 31, 2019, we incurred \$5.4 in transaction related costs related to the AXC acquisition which were recorded in selling, general and administrative expenses in Corporate in the consolidated statements of income.

Unaudited Supplemental Pro Forma Information

The following unaudited supplemental pro forma financial information is based on our historical consolidated financial statements and AXC’s historical consolidated financial statements as adjusted to give effect to the July 1, 2019 AXC acquisition. The unaudited supplemental pro forma financial information for the periods presented gives effect to the acquisition as if it had occurred on January 1, 2018.

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

- Adjustment for depreciation related to the step-up in basis of the acquired property, plant and equipment and change in estimated useful lives.
- Adjustment for amortization of acquired intangible assets.

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- Adjustment for the change from last in, first out (LIFO) to weighted-average cost for the acquired inventory and the associated reduction of cost of sales.
- Adjustment to reflect an increase in interest expense resulting from interest on the term loan under the 2024 Credit Facilities to finance the AXC acquisition and amortization of related debt issuance costs.
- Adjustment to reflect the change in the estimated income tax rate for federal and state purposes.
- Adjustment to reflect the increase in weighted-average shares in connection with the equity issuance.

This unaudited pro forma financial information is presented for informational purposes only and is not necessarily indicative of the results of operations that actually would have resulted had the acquisition been in effect at the beginning of the periods presented. In addition, the unaudited pro forma results are not intended to be a projection of future results and do not reflect any operating efficiencies or cost savings that might be achievable.

The following table presents pro forma sales, net income attributable to Chart Industries, Inc., and net income attributable to Chart Industries, Inc. per common share data assuming AXC was acquired at the beginning of the 2018 fiscal year:

	Year Ended December 31,	
	2019	2018
Pro forma sales	\$ 1,364.3	\$ 1,211.1
Pro forma net income attributable to Chart Industries, Inc.	56.3	72.0
Pro forma net income attributable to Chart Industries, Inc. per common share, basic	\$ 1.66	\$ 2.05
Pro forma net income attributable to Chart Industries, Inc. per common share, diluted	1.60	1.99

Contingent Consideration

The preliminary estimated fair value of contingent consideration was \$16.9 for SES and \$3.2 for BIG at the date of acquisitions and was valued according to a discounted cash flow approach, which included assumptions regarding the probability of achieving certain targets and a discount rate applied to the potential payments. Potential payments are measured between the period commencing January 1, 2021 and ending on December 31, 2028 based on the attainment of certain earnings targets. The potential payments related to both SES and BIG contingent consideration on a combined basis is between \$0.0 and \$31.0.

Valuations are performed using Level 3 inputs as defined in Note 2, “Significant Accounting Policies” and are evaluated on a quarterly basis based on forecasted sales and earnings targets. Contingent consideration liabilities are classified as other current liabilities and other long-term liabilities in the consolidated balance sheets. The contingent consideration valuations were provisional and are subject to revision as we finalize third-party valuations and other analyses, and as such, any adjustment would impact the purchase price allocation. Otherwise, changes in fair value of contingent consideration, including accretion, are recorded as selling, general and administrative expenses in the consolidated statements of income and comprehensive income. No cash consideration was transferred for contingent consideration as of the acquisition dates and as such, the arrangements represent a noncash investing activity in the statement of cash flows for the year ended December 31, 2020. For the year ended December 31, 2020, the fair value of contingent consideration was unchanged.

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NOTE 14 — Accumulated Other Comprehensive Income (Loss) and Equity

Accumulated Other Comprehensive Income (Loss)

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

	December 31, 2020		
	Foreign currency translation adjustments	Pension liability adjustments, net of taxes	Accumulated other comprehensive income (loss)
Beginning Balance	\$ (25.0)	\$ (10.9)	\$ (35.9)
Other comprehensive income (loss)	38.8	(1.7)	37.1
Amounts reclassified from accumulated other comprehensive income (loss), net of income taxes	—	1.2	1.2
Net current-period other comprehensive income (loss), net of taxes	38.8	(0.5)	38.3
Ending Balance	<u>\$ 13.8</u>	<u>\$ (11.4)</u>	<u>\$ 2.4</u>
	December 31, 2019		
	Foreign currency translation adjustments	Pension liability adjustments, net of taxes	Accumulated other comprehensive income (loss)
Beginning Balance	\$ (17.5)	\$ (12.4)	\$ (29.9)
Other comprehensive (loss) income	(7.5)	1.1	(6.4)
Amounts reclassified from accumulated other comprehensive income (loss), net of income taxes	—	0.4	0.4
Net current-period other comprehensive (loss) income, net of taxes	(7.5)	1.5	(6.0)
Ending Balance	<u>\$ (25.0)</u>	<u>\$ (10.9)</u>	<u>\$ (35.9)</u>

Public Stock Offering

On June 14, 2019, we completed a public offering (the “2019 Equity Offering”), through which Chart issued and sold 4.025 shares of common stock, \$0.01 par value per share, which included the full exercise of the underwriters’ option to purchase additional shares, at a price of \$73.50 per share, before underwriting discounts and commissions. We received proceeds of \$295.8 from the issuance of shares and incurred \$9.5 of equity issuance costs. A portion of the proceeds from the 2019 Equity Offering was used to retire existing debt.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
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NOTE 15 — Earnings Per Share

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

	Year Ended December 31,		
	2020	2019	2018
Net income attributable to Chart Industries, Inc.			
Income from continuing operations	\$ 68.9	\$ 31.4	\$ 32.5
Income from discontinued operations	239.2	15.0	55.5
Net income attributable to Chart Industries, Inc.	<u>\$ 308.1</u>	<u>\$ 46.4</u>	<u>\$ 88.0</u>
Earnings per common share – basic:			
Income from continuing operations	\$ 1.95	\$ 0.93	\$ 1.05
Income from discontinued operations	6.76	0.44	1.78
Net income attributable to Chart Industries, Inc.	<u>\$ 8.71</u>	<u>\$ 1.37</u>	<u>\$ 2.83</u>
Earnings per common share – diluted:			
Income from continuing operations	\$ 1.89	\$ 0.89	\$ 1.01
Income from discontinued operations	6.56	0.43	1.72
Net income attributable to Chart Industries, Inc.	<u>\$ 8.45</u>	<u>\$ 1.32</u>	<u>\$ 2.73</u>
Weighted average number of common shares outstanding – basic	35.38	33.91	31.05
Incremental shares issuable upon assumed conversion and exercise of share-based awards	0.26	0.42	0.77
Incremental shares issuable due to dilutive effect of the convertible notes	0.53	0.82	0.38
Incremental shares issuable due to dilutive effect of warrants	0.28	0.02	—
Weighted average number of common shares outstanding – diluted	<u>36.45</u>	<u>35.17</u>	<u>32.20</u>

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

	Year Ended December 31,		
	2020	2019	2018
Share-based awards	0.27	0.15	0.22
Convertible note hedge and capped call transactions ⁽¹⁾	0.30	0.82	0.38
Warrants	4.41	—	5.18
Total anti-dilutive securities	<u>4.98</u>	<u>0.97</u>	<u>5.78</u>

⁽¹⁾ The convertible note hedge offsets any dilution upon actual conversion of the 2024 Notes up to a common stock price of \$71.775 per share. For further information, refer to Note 10, “Debt and Credit Arrangements.”

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NOTE 16 — Income Taxes

Income from Continuing Operations Before Income Taxes

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

	Year Ended December 31,		
	2020	2019	2018
United States	\$ 48.0	\$ 24.4	\$ 8.2
Foreign	37.2	10.2	33.5
Income from continuing operations before income taxes	<u>\$ 85.2</u>	<u>\$ 34.6</u>	<u>\$ 41.7</u>

Provision

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

	Year Ended December 31,		
	2020	2019	2018
Current:			
Federal	\$ (0.2)	\$ 4.9	\$ (3.2)
State and local	1.9	2.7	(0.2)
Foreign	12.2	11.4	5.3
Total current	<u>13.9</u>	<u>19.0</u>	<u>1.9</u>
Deferred:			
Federal	7.5	(2.0)	3.8
State and local	(2.9)	(5.5)	1.5
Foreign	(3.6)	(8.7)	—
Total deferred	<u>1.0</u>	<u>(16.2)</u>	<u>5.3</u>
Total income tax expense (benefit), net	<u>\$ 14.9</u>	<u>\$ 2.8</u>	<u>\$ 7.2</u>

Effective Tax Rate Reconciliation

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

	Year Ended December 31,		
	2020	2019	2018
Income tax expense at U.S. statutory rate	\$ 17.9	\$ 7.3	\$ 8.7
State income taxes, net of federal tax benefit	(0.9)	(2.3)	1.2
Foreign income, net of credit on foreign taxes	—	(1.3)	0.7
Effective tax rate differential of earnings outside of U.S.	2.4	—	2.1
Change in valuation allowance	(4.2)	1.0	38.4
Research & experimentation credits	(1.0)	(0.9)	(0.8)
Foreign derived intangible income	(0.2)	(1.2)	—
Net non-deductible items	1.2	2.3	0.4
Change in uncertain tax positions	(0.6)	—	0.2
Share-based compensation	(1.7)	(2.8)	(3.3)
Capital loss carryover	—	—	(29.7)
Tax effect of 2017 tax reform federal rate change	(0.2)	—	(11.3)
Tax effect of carryforward foreign tax credits	—	—	(0.6)
Other items	2.2	0.7	1.2
Income tax expense	<u>\$ 14.9</u>	<u>\$ 2.8</u>	<u>\$ 7.2</u>

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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. Significant components of our deferred tax assets and liabilities are as follows:

	December 31,	
	2020	2019
Deferred tax assets:		
Accruals and reserves	\$ 15.7	\$ 19.4
Pensions	2.6	2.9
Inventory	3.5	2.3
Share-based compensation	4.4	5.3
Tax credit carryforwards	10.6	15.5
Foreign net operating loss carryforwards	22.4	24.4
State net operating loss carryforwards	1.9	0.3
Capital loss carryover	—	29.4
Convertible notes	0.7	0.7
Operating leases	8.1	8.5
Other – net	7.4	5.5
Total deferred tax assets before valuation allowances	77.3	114.2
Valuation allowances	(33.9)	(68.2)
Total deferred tax assets, net of valuation allowances	\$ 43.4	\$ 46.0
Deferred tax liabilities:		
Property, plant and equipment	\$ 27.8	\$ 22.2
Goodwill and intangible assets	69.1	74.9
Other – net	5.2	1.0
Total deferred tax liabilities	\$ 102.1	\$ 98.1
Net deferred tax liabilities	\$ 58.7	\$ 52.1
The net deferred tax liability is classified as follows:		
Other assets	\$ (1.5)	\$ —
Long-term deferred tax liabilities	60.2	52.1
Net deferred tax liabilities	\$ 58.7	\$ 52.1

As of December 31, 2020, we have \$128.4 of state and foreign net operating losses, of which approximately \$47.3 expire between 2021 and 2030.

We routinely review valuation allowances recorded against deferred tax assets on a more likely than not basis as to whether we have the ability to realize the deferred tax assets. As of December 31, 2020, we have valuation allowances totaling \$33.9 consisting primarily of \$23.8 associated with our operations in China.

Other Tax Information

On December 22, 2017, the Tax Cuts and Jobs Act (“Tax Act”) was signed into law. The Tax Act, among other things, reduced the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, requires a current inclusion in U.S. federal taxable income of certain earnings of foreign corporations, and created a new limitation on deductible interest expense. Consequently, we recorded a \$22.5 net favorable tax benefit during the year ended December 31, 2017 primarily due to the remeasurement of deferred tax assets to the 21% federal corporate tax rate. In accordance with SAB 118, we recorded an additional tax benefit \$1.8 during the year ended December 31, 2018 primarily related to the remeasurement of deferred tax assets to the 21% federal corporate tax rate based on the completion of our analysis to determine the effect of the Tax Act.

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We previously considered the earnings in our non-U.S. subsidiaries to be indefinitely reinvested and, accordingly, recorded no deferred income taxes. We have analyzed our global working capital and cash requirements as of December 31, 2020 and have determined that we do not plan to repatriate any earnings at this time.

Cash paid for income taxes during the years ended December 31, 2020, 2019 and 2018 was \$12.5, \$16.8, and \$13.2, respectively.

Unrecognized Income Tax Benefits

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

	Year Ended December 31,		
	2020	2019	2018
Unrecognized tax benefits at beginning of the year	\$ 2.4	\$ 2.3	\$ 0.8
(Reductions) additions for tax positions taken during the prior period	(0.6)	(0.1)	0.9
Additions for tax positions taken during the current period	0.2	0.2	1.4
Reductions relating to settlements with taxing authorities	(0.1)	—	(0.8)
Unrecognized tax benefits at end of the year	<u>\$ 1.9</u>	<u>\$ 2.4</u>	<u>\$ 2.3</u>

Included in the balance of unrecognized tax benefits at December 31, 2020 and 2019 were \$1.3 and \$1.7 of income tax (benefit)/expenses, respectively, which, if ultimately recognized, would impact our annual effective tax rate.

We accrued approximately \$0.3 and \$0.4 of interest and penalties at December 31, 2020 and 2019, respectively. Due to the expiration of various statutes of limitation, it is reasonably possible our unrecognized tax benefits at December 31, 2020 may decrease within the next twelve months by \$0.4. We are subject to income taxes in the U.S. federal jurisdiction and various state and foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local or non-U.S. income tax examinations by tax authorities for years prior to 2016.

NOTE 17 — Employee Benefit Plans

Defined Benefit Plan

We have a defined benefit pension plan which is frozen, that covers certain U.S. hourly and salary employees. The defined benefit plan provides benefits based primarily on the participants' years of service and compensation.

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

	Year Ended December 31,		
	2020	2019	2018
Interest cost	\$ 1.8	\$ 2.2	\$ 2.1
Expected return on plan assets	(3.3)	(2.9)	(3.3)
Amortization of net loss	1.2	1.3	0.9
Total net periodic pension (income) expense	<u>\$ (0.3)</u>	<u>\$ 0.6</u>	<u>\$ (0.3)</u>

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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:

	December 31,	
	2020	2019
Change in projected benefit obligation:		
Projected benefit obligation at beginning of year	\$ 58.5	\$ 53.6
Interest cost	1.8	2.2
Assumption changes	5.2	5.4
Benefits paid	(2.7)	(2.5)
Actuarial gains	(0.3)	(0.2)
Projected benefit obligation at year end	<u>62.5</u>	<u>58.5</u>
Change in plan assets:		
Fair value of plan assets at beginning of year	49.1	42.8
Actual return	6.4	8.4
Employer contributions	1.1	0.4
Benefits paid	(2.7)	(2.5)
Fair value of plan assets at year end	<u>53.9</u>	<u>49.1</u>
Funded status (Accrued pension liabilities) ⁽¹⁾	<u>\$ (8.6)</u>	<u>\$ (9.4)</u>
Unrecognized actuarial loss recognized in accumulated other comprehensive income (loss)	<u>\$ 14.9</u>	<u>\$ 14.2</u>

⁽¹⁾ Accrued pension liabilities on the consolidated balance sheets for both December 31, 2020 and 2019 were \$1.0 and \$0.8, respectively, related to our Hudson Products business, which is not included in the table above.

The estimated net periodic pension income for the defined benefit pension plan that will be amortized from accumulated other comprehensive loss over the next fiscal year is \$0.9.

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

	December 31,		
	2020	2019	2018
Assumptions used to determine benefit obligation at year end:			
Discount rate	2.4 %	3.2 %	4.2 %
Assumptions used to determine net periodic benefit cost:			
Discount rate	3.2 %	4.2 %	3.7 %
Expected long-term weighted-average rate of return on plan assets	7.0 %	7.0 %	7.0 %

The discount rate 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.

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

Plan Assets:	Target Allocations by Asset Category	Fair Value					
		Total		Level 2		Level 3	
		2020	2019	2020	2019	2020	2019
Equity funds	68%	\$ 38.9	\$ 36.0	\$ 38.9	\$ 36.0	\$ —	\$ —
Fixed income funds	26%	13.2	12.8	13.2	12.8	—	—
Other investments	6%	1.8	0.3	—	—	1.8	0.3
Total		\$ 53.9	\$ 49.1	\$ 52.1	\$ 48.8	\$ 1.8	\$ 0.3

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:

Balance at December 31, 2018	\$	0.2
Purchases, sales and settlements, net		(3.1)
Transfers, net		3.2
Balance at December 31, 2019		0.3
Purchases, sales and settlements, net		(3.0)
Transfers, net		4.5
Balance at December 31, 2020	\$	1.8

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 defined benefit pension plan until 2024. 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:

2021	\$	3.1
2022		3.2
2023		3.3
2024		3.3
2025		3.4
In aggregate during five years thereafter		17.2

CHART INDUSTRIES, INC. AND SUBSIDIARIES
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Hudson Defined Benefit Plan

We have a noncontributory defined benefit plan at our Hudson Products business (the “Hudson Plan”) covering certain employees who meet the plan’s eligibility requirements. The Hudson Plan is closed to new participants. Our funding policy is to make the minimum annual contribution that is required by applicable regulations, plus such amounts as we may determine to be appropriate from time to time. At both December 31, 2020 and 2019, the projected benefit obligation of the Hudson Plan was \$2.9 while the fair value of plan assets was \$2.0. Consequently, at December 31, 2020 and 2019, a liability of \$1.0 and \$0.8, respectively, was included in accrued pension liabilities on the consolidated balance sheets for the underfunded status of the Hudson Plan. Pension expense in 2020 and 2019 was not significant.

Multi-Employer Plan

We contribute to a multi-employer plan for certain collective bargaining U.S. employees. The risks of participating in this multi-employer plan are different from a single employer plan in the following aspects:

- (a) Assets contributed to the multi-employer plan by one employer may be used to provide benefits to employees of other participating employers.
- (b) If a participating employer ceases contributing to the plan, the unfunded obligations of the plan may be inherited by the remaining participating employers.
- (c) If we choose to stop participating in the multi-employer plan, we may be required to pay those plans an amount based on the underfunded status of the plan, referred to as a withdrawal liability.

We have assessed and determined that the multi-employer plan to which we contribute is not significant to our financial statements. We do not expect to incur a withdrawal liability or expect to significantly increase our contribution over the remainder of the current contract period, which ends in February 2023. We made contributions to the bargaining unit supported multi-employer pension plan resulting in expense of \$0.5, \$0.5, and \$0.4 for the years ended December 31, 2020, 2019 and 2018, respectively. The reduction in contributions is due to fewer employees participating in this plan.

Defined Contribution Savings Plan

We have a defined contribution savings plan that covers most of our U.S. employees. Company contributions to the plan are based on employee contributions, and include a Company match and discretionary contributions. Expenses under the plan totaled \$4.9, \$8.7, and \$8.2 for the years ended December 31, 2020, 2019 and 2018, respectively.

Voluntary Deferred Income Plan

We provide additional retirement plan benefits to certain members of management under the Amended and Restated Chart Industries, Inc. Voluntary Deferred Income Plan. This is an unfunded plan. We recorded \$0.3, \$0.3, and \$0.4 of expense associated with this plan for the years ended December 31, 2020, 2019 and 2018, respectively.

NOTE 18 — Share-based Compensation

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, 2020, 0.22 stock options, 0.20 shares of restricted stock and RSUs, and 0.06 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, 2020 0.15 stock options were outstanding under the 2009 Omnibus Equity Plan.

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We recognized share-based compensation expense of \$8.6, \$8.8, and \$4.6 for the years ended December 31, 2020, 2019 and 2018, 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, which was recorded in net income in the consolidated statement of income during the years ended December 31, 2020, 2019 and 2018 was \$1.6, \$2.7 and \$1.3 respectively, which was recorded in net income in the consolidated statements of income. As of December 31, 2020, total share-based compensation expense of \$8.9 is expected to be recognized over the remaining weighted-average period of approximately 1.7 years.

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,		
	2020	2019	2018
Weighted-average grant-date fair value per share	\$ 28.53	\$ 30.66	\$ 26.67
Expected term (years)	4.8	5.0	5.5
Risk-free interest rate	1.66 %	2.24 %	2.30 %
Expected volatility	46.60 %	50.94 %	59.41 %

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, 2020			
	Number of Shares	Weighted-average Exercise Price	Aggregate Intrinsic Value	Weighted-average Remaining Contractual Term
Outstanding at beginning of year	0.63	\$ 46.01		
Granted	0.11	68.80		
Exercised	(0.31)	35.66		
Forfeited / Cancelled	(0.07)	59.76		
Outstanding at end of year	0.36	\$ 57.95	\$ 22.6	6.1 years
Vested and expected to vest at end of year	0.36	\$ 57.67	\$ 9.3	6.0 years
Exercisable at end of year	0.15	\$ 56.51	\$ 22.1	4.5 years

As of December 31, 2020, total unrecognized compensation cost related to stock options expected to be recognized over the weighted-average period of approximately 2.4 years is \$2.1.

The total intrinsic value of options exercised during the years ended December 31, 2020, 2019 and 2018 was \$13.2, \$13.1, and \$18.8, respectively. The total fair value of stock options vested during the years ended December 31, 2020, 2019 and 2018 was \$3.5, \$3.1, and \$3.7, respectively.

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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, 2020	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested at beginning of year	0.22	\$ 55.46
Granted	0.09	63.32
Forfeited	(0.02)	63.89
Vested	(0.10)	51.23
Unvested at end of year	0.19	\$ 60.28

As of December 31, 2020, total unrecognized compensation cost related to unvested restricted stock and RSUs expected to be recognized over the weighted-average period of approximately 1.5 years is \$4.7.

The weighted-average grant-date fair value of restricted stock and RSUs granted during the years ended December 31, 2020, 2019, and 2018 was \$63.32, \$67.64, and \$51.99, respectively. The total fair value of restricted stock and RSUs that vested during the years ended December 31, 2020, 2019, and 2018 was \$6.8, \$7.7, and \$7.3, respectively.

Performance Units

Performance units are earned over a three-year period. Based on the attainment of pre-determined performance 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, 2020	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested at beginning of year	0.04	\$ 61.71
Granted	0.04	67.50
Vested	—	38.51
Forfeited	(0.01)	60.91
Unvested at end of year	0.07	\$ 66.76

As of December 31, 2020, total unrecognized compensation cost related to performance units expected to be recognized over a weighted-average period of approximately 1.7 years is \$2.1.

The weighted-average grant-date fair value of performance units granted during the years ended December 31, 2020, 2019, and 2018 was \$67.50, \$69.53, and \$49.38, respectively. The total fair value of performance units that vested during the years ended December 31, 2020, 2019, and 2018 was \$0.3, \$1.1, and \$0.1, respectively.

Directors' Stock Grants

In 2020, 2019 and 2018, we granted the non-employee directors stock awards covering 0.01 shares of common stock for each of those years, which had fair values of \$1.3, \$0.6, and \$0.7, respectively. These stock awards were fully vested on the grant date. Likewise, the fair values were recognized immediately on the grant date.

NOTE 19 — Leases

As of December 31, 2020 and 2019, operating ROU assets and lease liabilities were \$29.0 and \$28.7 (\$5.1 of which was current), and \$34.0 and \$34.1 (\$6.3 of which was current), respectively. The weighted-average remaining term for lease

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contracts was 5.8 years at December 31, 2020, with maturity dates ranging from April 2021 to February 2029. The weighted-average discount rate was 2.3% at December 31, 2020.

We incurred \$11.1, \$10.2, and \$7.3 of rental expense under operating leases for the years ended December 31, 2020, 2019 and 2018, respectively. Certain operating leases contain rent escalation clauses and lease concessions that require additional rental payments in the later years of the term. Rent expense for these types of leases is recognized on a straight-line basis over the minimum lease term. Adjustments for straight-line rental expense for the respective periods was not material and as such, the majority of expense recognized was reflected in cash used in operating activities for the respective periods. This expense consisted primarily of payments for base rent on building and equipment leases. Payments related to short-term lease costs and taxes and variable service charges on leased properties were immaterial. In addition, we have the right, but no obligation, to renew certain leases for various renewal terms.

The following table summarizes future minimum lease payments for non-cancelable operating leases as of December 31, 2020:

2021	\$	6.6
2022		6.2
2023		5.6
2024		5.1
2025		4.3
Thereafter ⁽¹⁾		3.5
Total future minimum lease payments	\$	31.3

⁽¹⁾ As of December 31, 2020, future minimum lease payments for non-cancelable operating leases for period subsequent to 2025 relate to 7 leased facilities.

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 at one owned facility that is leased to a third party, and, except for these continuing remediation efforts, believes we are currently in substantial compliance with all known environmental regulations. At December 31, 2020 and 2019, we had undiscounted accrued environmental reserves of \$0.3 and \$0.6, respectively.

Legal Proceedings

Stainless Steel Cryobiological Tank Legal Proceedings

During the second quarter of 2018, Chart was named in lawsuits (including lawsuits filed in the U.S. District Court for the Northern District of California) filed against Chart and other defendants with respect to the alleged failure of a stainless steel cryobiological storage tank (model MVE 808AF-GB) at the Pacific Fertility Center in San Francisco, California. We continue to evaluate the merits of such claims in light of the information available to date regarding use, maintenance and operation of the tank that was sold to the Pacific Fertility Center through an independent distributor and which has been out of our control for six years prior to the alleged failure. Accordingly, an accrual related to any damages that may result from the lawsuits has not been recorded because a potential loss is not currently probable or estimable. In connection with the Cryobiological Divestiture, Chart retained certain potential liabilities and claims, including the claims asserted in connection with the litigation.

We have asserted various defenses against the claims in the lawsuits, including a defense that since manufacture, we were not in any way involved with the installation, ongoing maintenance or monitoring of the tank or related fertility center cryogenic systems at any time since the initial delivery of the tank.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

Aluminum Cryobiological Tank Legal Proceeding

Chart was named in a purported class action lawsuit filed during the second quarter of 2018 in the Ontario Superior Court of Justice against the Company and other defendants with respect to the alleged failure of an aluminum cryobiological storage tank (model FNL XC 47/11-6 W/11) at The Toronto Institute for Reproductive Medicine in Etobicoke, Ontario. A settlement has been reached by the parties in the lawsuit with no material effect on the Company's financial position, results of operations or cash flows.

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. 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."

NOTE 21 — Restructuring Activities

During 2020, we implemented certain cost reduction actions across all segments and corporate to appropriately size our workforce with demand as well as eliminate redundant work. Costs were primarily related to headcount reductions. These actions resulted in total restructuring costs of \$13.6 for the year ended December 31, 2020, consisting of mainly employee severance costs (\$10.1). As previously reported, on July 17, 2020, we announced internally our intention to transfer operations of our heat exchanger leased facility in Tulsa, Oklahoma to our Beasley, Texas location at which we own 260 acres of land. This was a cost reduction measure within our Heat Transfer Systems segment to continue to structure the business for profitable growth and capacity efficiency. Total costs related to this action are expected to be approximately \$9.0, of which \$2.7 has been spent year to date, associated with severance, relocation and moving expenses. We expect this project to be completed by June 30, 2021. We are closely monitoring our end markets and order rates and will continue to take appropriate and timely actions as necessary.

During 2019, we implemented certain cost reduction or avoidance actions, including facility consolidations at certain of our U.S. properties, and a streamlining of the commercial activities surrounding our Lifecycle business in our Repair, Service & Leasing segment, geographic realignment of our manufacturing capacity and a facility closure in Asia, as well as departmental restructuring, including headcount reductions in each of our four segments. These actions resulted in total restructuring costs of \$15.6, consisting of employee severance costs, disposals of property, plant and equipment and other costs. Restructuring costs for 2019 reflect a \$1.6 credit to Repair, Service & Leasing segment restructuring costs recorded in the second quarter of 2019 due to the successful negotiation of a lease termination for a facility for our previous Lifecycle business. These restructuring activities were substantially completed by the end of 2019.

During 2018, we implemented certain cost reduction or avoidance actions, primarily related to departmental restructuring, including headcount reductions resulting in associated severance costs. We executed a strategic realignment of our segment structure, which resulted in severance charges during 2018. These actions resulted in total restructuring costs of \$4.3 for the year ended December 31, 2018.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

The following table is a summary of the severance and other restructuring costs, which includes employee-related costs, facility rent and exit costs, relocation, recruiting, travel and other, for the years ended December 31, 2020, 2019 and 2018:

	Year Ended December 31,		
	2020	2019	2018
Severance:			
Cost of sales	\$ 4.6	\$ 2.9	\$ —
Selling, general, and administrative expenses	5.5	1.4	3.1
Total severance costs	10.1	4.3	3.1
Other restructuring:			
Cost of sales	1.1	9.3	0.8
Selling, general, and administrative expenses	2.4	2.0	0.4
Total other restructuring costs	3.5	11.3	1.2
Total restructuring costs	\$ 13.6	\$ 15.6	\$ 4.3

We are closely monitoring our end markets and order rates and will continue to take appropriate and timely actions as necessary.

The following tables summarize our restructuring accrual activities:

	Year Ended December 31, 2020					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Corporate	Total
Balance as of December 31, 2019	\$ 0.5	\$ 0.2	\$ —	\$ —	\$ 0.2	\$ 0.9
Restructuring charges	2.7	7.4	0.7	0.2	2.6	13.6
Cash payments and other	(2.7)	(7.4)	(0.7)	(0.2)	(2.7)	(13.7)
Balance as of December 31, 2020	\$ 0.5	\$ 0.2	\$ —	\$ —	\$ 0.1	\$ 0.8

	Year Ended December 31, 2019					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Corporate	Total
Balance as of December 31, 2018	\$ 0.7	\$ —	\$ —	\$ —	\$ 0.1	\$ 0.8
Restructuring charges	9.1	4.5	0.3	1.5	0.2	15.6
Property, plant and equipment impairment	(3.9)	(1.7)	—	—	—	(5.6)
Cash payments and other	(5.4)	(2.6)	(0.3)	(1.5)	(0.1)	(9.9)
Balance as of December 31, 2019	\$ 0.5	\$ 0.2	\$ —	\$ —	\$ 0.2	\$ 0.9

	Year Ended December 31, 2018					
	Cryo Tank Solutions	Heat Transfer Systems	Specialty Products	Repair, Service & Leasing	Corporate	Total
Balance as of December 31, 2017	\$ 0.3	\$ —	\$ —	\$ —	\$ 1.1	\$ 1.4
Restructuring charges (credits)	1.7	0.7	(0.3)	(0.1)	2.3	4.3
Cash payments and other	(1.3)	(0.7)	0.3	0.1	(3.3)	(4.9)
Balance as of December 31, 2018	\$ 0.7	\$ —	\$ —	\$ —	\$ 0.1	\$ 0.8

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

NOTE 22 — Quarterly Data (Unaudited)

Selected quarterly data for the years ended December 31, 2020 and 2019 are as follows:

	Year Ended December 31, 2020				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Sales	\$ 301.9	\$ 289.6	\$ 273.2	\$ 312.4	\$ 1,177.1
Gross profit	82.3	83.3	78.6	87.9	332.1
Operating income ⁽¹⁾	15.8	25.8	28.1	22.5	92.2
Income from continuing operations	2.0	13.8	15.6	37.5	68.9
Income from discontinued operations	6.4	6.4	6.1	220.3	239.2
Net income attributable to Chart Industries, Inc. ⁽¹⁾	8.4	20.2	21.7	257.8	308.1
Basic earnings per common share attributable to Chart Industries, Inc. ⁽²⁾					
Income from continuing operations	0.06	0.39	0.44	1.06	1.95
Income from discontinued operations	0.17	0.18	0.18	6.23	6.76
Net income attributable to Chart Industries, Inc.	<u>\$ 0.23</u>	<u>\$ 0.57</u>	<u>\$ 0.62</u>	<u>\$ 7.29</u>	<u>\$ 8.71</u>
Diluted earnings per common share attributable to Chart Industries, Inc. ⁽²⁾					
Income from continuing operations	\$ 0.06	\$ 0.39	\$ 0.43	\$ 0.97	\$ 1.89
Income from discontinued operations	0.17	0.18	0.17	5.72	6.56
Net income attributable to Chart Industries, Inc.	<u>\$ 0.23</u>	<u>\$ 0.57</u>	<u>\$ 0.60</u>	<u>\$ 6.69</u>	<u>\$ 8.45</u>

⁽¹⁾ Includes gain on sale from the Cryobiological Divestiture of \$224.2, net of taxes of \$25.2, for the fourth quarter of 2020.

⁽²⁾ Basic and diluted earnings per share are computed independently for each of the quarters presented. As such, the sum of quarterly basic and diluted earnings per share may not equal reported annual basic and diluted earnings per share.

CHART INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)
(Dollars and shares in millions, except per share amounts)

	Year Ended December 31, 2019				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Sales	\$ 269.0	\$ 287.1	\$ 338.0	\$ 321.4	\$ 1,215.5
Gross profit	57.5	71.8	92.9	75.3	297.5
Operating (loss) income ⁽¹⁾	(3.1)	16.2	23.4	15.5	52.0
(Loss) income from continuing operations	(5.1)	6.3	13.7	16.5	31.4
Income (loss) from discontinued operations	6.0	8.1	5.0	(4.1)	15.0
Net income attributable to Chart Industries, Inc.	<u>\$ 0.9</u>	<u>\$ 14.4</u>	<u>\$ 18.7</u>	<u>\$ 12.4</u>	<u>\$ 46.4</u>
Basic earnings per common share attributable to Chart Industries, Inc.					
(Loss) income from continuing operations	\$ (0.16)	\$ 0.19	\$ 0.38	\$ 0.46	\$ 0.93
Income (loss) from discontinued operations	0.19	0.25	0.14	(0.11)	0.44
Net income attributable to Chart Industries, Inc. ⁽²⁾	<u>\$ 0.03</u>	<u>\$ 0.44</u>	<u>\$ 0.52</u>	<u>\$ 0.35</u>	<u>\$ 1.37</u>
Diluted earnings per common share attributable to Chart Industries, Inc.					
(Loss) income from continuing operations	\$ (0.15)	\$ 0.18	\$ 0.37	\$ 0.46	\$ 0.89
Income (loss) from discontinued operations	0.18	0.23	0.14	(0.12)	0.43
Net income attributable to Chart Industries, Inc. ⁽²⁾	<u>\$ 0.03</u>	<u>\$ 0.41</u>	<u>\$ 0.51</u>	<u>\$ 0.34</u>	<u>\$ 1.32</u>

⁽¹⁾ Includes transaction-related costs of \$5.4 for the year ended December 31, 2019, which were mainly related to the AXC acquisition. Includes transaction-related costs of \$4.3 related to integration activities for previous acquisitions for the year ended December 31, 2019.

⁽²⁾ Basic and diluted earnings per share are computed independently for each of the quarters presented. As such, the sum of quarterly basic and diluted earnings per share may not equal reported annual basic and diluted earnings per share.

NOTE 23 — Subsequent Event

On February 16, 2021, we acquired 100% of the equity interests of Cryogenic Gas Technologies, Inc. (“Cryo Technologies”) for approximately \$55 million in cash (subject to certain customary adjustments). Cryo Technologies is a global leader in custom engineered process systems to separate, purify, refrigerate, liquefy and distribute high value industrial gases such as hydrogen, helium, argon and hydrocarbons with design capabilities for cold boxes for hydrogen and helium use. The distribution systems Cryo Technologies supplies are located within the helium and hydrogen liquefaction facilities and are inclusive of trailer loading systems, which facilitates the first step in product distribution.

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

	Balance at beginning of period	Additions		Deductions	Translations	Balance at end of period
		Charged to costs and expenses	Charged to other accounts			
Year Ended December 31, 2020						
Allowance for doubtful accounts	\$ 8.5	\$ 0.4	\$ —	\$ —	\$ (0.5)	\$ 8.4
Allowance for excess and obsolete inventory	10.6	0.4	—	(0.5) ⁽³⁾	(0.8)	9.7
Deferred tax assets valuation allowance	68.2	0.3	— ⁽¹⁾	(36.6) ⁽⁴⁾	2.0	33.9
Year Ended December 31, 2019						
Allowance for doubtful accounts	\$ 8.1	\$ 0.2	\$ —	\$ — ⁽²⁾	\$ 0.2	\$ 8.5
Allowance for excess and obsolete inventory	8.9	10.0	—	(8.0) ⁽³⁾	(0.3)	10.6
Deferred tax assets valuation allowance	65.2	5.4	5.3	(5.9)	(1.8)	68.2
Year Ended December 31, 2018						
Allowance for doubtful accounts	\$ 9.1	\$ (0.9)	\$ —	\$ — ⁽²⁾	\$ (0.1)	\$ 8.1
Allowance for excess and obsolete inventory	7.9	8.6	—	(7.4) ⁽³⁾	(0.2)	8.9
Deferred tax assets valuation allowance	26.8	38.7	—	—	(0.3)	65.2

⁽¹⁾ Deferred tax assets valuation allowance related to the VRV acquisition.

⁽²⁾ Reversal of amounts previously recorded as bad debt and uncollectible accounts written off.

⁽³⁾ Inventory items written off against the allowance.

⁽⁴⁾ Deductions to the deferred tax assets valuation allowance relate to decreased deferred tax assets and the release of the valuation allowance. During the year ended December 31, 2020, we reduced our deferred tax assets relative to the Cryobiological Divestiture and as such also reduced the related valuation allowance by \$32.4.

INDEX TO EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
2.1	<u>Agreement and Plan of Merger, among Chart Industries, Inc., Chart Sully Corporation, RCHPH Holdings, Inc., and R/C Hudson Holdings, L.P., solely in its capacity as the Initial Holder Representative under the Merger Agreement, dated as of June 30, 2017 (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission ("SEC") on June 30, 2017 (File No. 001-11442)).**</u>
2.1.1	<u>Amendment No. 1, dated September 19, 2017, to Agreement and Plan of Merger, among Chart Industries, Inc., Chart Sully Corporation, RCHPH Holdings, Inc., and R/C Hudson Holdings, L.P., solely in its capacity as the Initial Holder Representative under the Merger Agreement, dated as of June 30, 2017 (incorporated by reference to Exhibit 2.2 to the Registrant's Current Report on Form 8-K filed with the SEC on September 21, 2017 (File No. 001-11442)).**</u>
2.2	<u>Share Purchase Agreement, by and among Chart Industries, Inc., Alessandro Spada, Elena Spada and Federico Spada, dated as of September 26, 2018 (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on September 27, 2018 (File No. 001-11442)).**</u>
2.2.1	<u>Amended and Restated Share Purchase Agreement, by and among Chart Industries, Inc., Alessandro Spada, Elena Spada, Federico Spada and VRV S.p.a., dated as of November 13, 2018 (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 15, 2018 (File No. 001-11442)).**</u>
2.3	<u>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)).**</u>
2.4	<u>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).</u>
2.5	<u>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)).</u>
3.1	<u>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)).</u>
3.2	<u>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)).</u>
4.1	<u>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)).</u>
4.2	<u>Indenture, dated as of November 6, 2017, by and between Chart Industries, Inc. and Wells Fargo Bank, National Association (including the form of the 1.00% Convertible Senior Subordinated Notes due 2024) (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 (File No. 001-11442)).</u>
4.2.1	<u>First Supplemental Indenture, dated as of December 31, 2020, to the Indenture, dated November 6, 2017 by and among Chart Industries, Inc. and Wells Fargo Bank, National Association (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 6, 2021 (File No. 001-11442)).</u>
4.3	<u>Description of Securities (incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11442)).</u>
10.1	<u>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)).*</u>
10.1.1	<u>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)).*</u>
10.1.2	<u>Form of Nonqualified Stock Option Agreement (2010 grants) under the Chart Industries, Inc. 2009 Omnibus Equity Plan (incorporated by reference to Exhibit 10.4.1 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2009 (File No. 001-11442)).*</u>

- 10.1.3 [Forms of Stock Award Agreement and Deferral Election Form \(for eligible directors\) under the Chart Industries, Inc. 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.4.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2009 \(File No. 001-11442\)\).*](#)
- 10.1.4 [Form of Nonqualified Stock Option Agreement \(2011 grants\) under the Chart Industries, Inc. 2009 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, 2010 \(File No. 001-11442\)\).*](#)
- 10.1.5 [Form of Restricted Stock Agreement \(2011 grants\) under the Chart Industries, Inc. 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.5 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2010 \(File No. 001-11442\)\).*](#)
- 10.1.6 [Form of Performance Unit Agreement \(2011 grants\) under the Chart Industries, Inc. 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.6 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2010 \(File No. 001-11442\)\).*](#)
- 10.1.7 [Form of Nonqualified Stock Option Agreement \(2012 grants\) under the Chart Industries, Inc. 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.8 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2011 \(File No. 001-11442\)\).*](#)
- 10.1.8 [Form of Leveraged Restricted Share Unit Agreement \(2013 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed with the SEC on January 5, 2012 \(File No. 001-11442\)\).*](#)
- 10.1.9 [Form of Nonqualified Stock Option Agreement \(2013 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.11 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 \(File No. 001-11442\)\).*](#)
- 10.1.10 [Form of Performance Unit Agreement \(2013 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.12 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 \(File No. 001-11442\)\).*](#)
- 10.1.11 [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 \(File No. 001-11442\)\).*](#)
- 10.1.12 [Form of Performance Unit Agreement \(2014 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.14 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 \(File No. 001-11442\)\).*](#)
- 10.1.13 [Form of Leveraged Restricted Share Unit Agreement \(2014 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.15 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 \(File No. 001-11442\)\).*](#)
- 10.1.14 [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 \(File No. 001-11442\)\).*](#)
- 10.1.15 [Form of Performance Unit Agreement \(2015 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.17 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 \(File No. 001-11442\)\).*](#)
- 10.1.16 [Form of Restricted Share Unit Agreement \(2015 grants\) 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, 2014 \(File No. 001-11442\)\).*](#)
- 10.1.17 [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 \(File No. 001-11442\)\).*](#)
- 10.1.18 [Form of Performance Unit Agreement \(2016 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.19 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2015 \(File No. 001-11442\)\).*](#)
- 10.1.19 [Form of Restricted Share Unit Agreement \(2016 grants\) 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, 2015 \(File No. 001-11442\)\).*](#)
- 10.1.20 [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 \(File No. 001-11442\)\).*](#)

- 10.1.21 [Form of Performance Unit Agreement \(2017 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.22 to the Registrant’s Annual Report on Form 10-K for the year ended December 31, 2016 \(File No. 001-11442\)\).*](#)
- 10.1.22 [Form of Restricted Share Unit Agreement \(2017 grants\) under the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan \(incorporated by reference to Exhibit 10.3.23 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 Restricted Share Unit Agreement \(2018 Evanko Grant\) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. \(incorporated by reference to Exhibit 10.3.8 of the Registrant’s Annual Report on Form 10-K for the year ended December 31, 2018 \(File No. 001-11442\)\).*](#)
- 10.2.9 [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 \(File No. 001-11442\)\).*](#)
- 10.2.10 [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 \(File No. 001-11442\)\).*](#)
- 10.2.11 [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 \(File No. 001-11442\)\).*](#)
- 10.2.12 [Form of Restricted Share Unit Agreement \(2019 Bishop Grant\) under the Chart Industries, Inc. 2017 Omnibus Equity Plan. \(incorporated by reference to Exhibit 10.1 to the Registrant’s Current Report on Form 8-K as amended, filed with the SEC on August 23, 2019 \(File No. 001-11442\)\).*](#)
- 10.2.13 [Form of Nonqualified Stock Option Agreement \(2021 grants\) under the Chart Industries, Inc. 2017 Omnibus Equity Plan.* \(x\)](#)
- 10.2.14 [Form of Performance Unit Agreement \(2021 grants\) under the Chart Industries, Inc. 2017 Omnibus Equity Plan.* \(x\)](#)
- 10.2.15 [Form of Restricted Share Unit Agreement \(2021 grants\) under the Chart Industries, Inc. 2017 Omnibus Equity Plan.* \(x\)](#)

- 10.3 [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 \(File No. 001-11442\)\).*](#)
- 10.3.1 [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 \(File No. 001-11442\)\).*](#)
- 10.3.2 [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 \(File No. 001-11442\)\).*](#)
- 10.4 [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 \(File No. 001-11442\)\).*](#)
- 10.5 [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 \(File No. 001-11442\)\).*](#)
- 10.6 [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 \(File No. 001-11442\)\).*](#)
- 10.7 [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 \(File No. 001-11442\)\).*](#)
- 10.8 [Employment Agreement, dated effective August 21, 2019, by and between Chart Industries, Inc. and John Bishop \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K as amended, filed with the SEC on August 23, 2019 \(File No. 001-11442\)\).*](#)
- 10.9 [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 \(File No. 001-11442\)\).*](#)
- 10.10.1 [Employment Agreement, dated effective January 14, 2019, by and between Chart Industries, Inc. and Jeffrey Lass \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 29, 2019 \(File No. 001-11442\)\).*](#)
- 10.10.2 [Mutual Agreement of Separation and Release, dated effective August 29, 2019, by and between Chart Industries, Inc. and Jeffrey R. Lass \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 29, 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 [Base Call Option Transaction Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and Morgan Stanley & Co. International plc \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the SSEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.1 [Base Warrants Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and Morgan Stanley & Co. International plc \(incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.2 [Base Call Option Transaction Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and JPMorgan Chase Bank, National Association, London Branch \(incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.3 [Base Warrants Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and JPMorgan Chase Bank, National Association, London Branch \(incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.4 [Base Call Option Transaction Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and Bank of America, N.A. \(incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)

- 10.13.5 [Base Warrants Confirmation, dated October 31, 2017, by and between Chart Industries, Inc. and Bank of America, N.A. \(incorporated by reference to Exhibit 10.6 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.6 [Additional Call Option Transaction Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and Morgan Stanley & Co. International plc \(incorporated by reference to Exhibit 10.7 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.7 [Additional Warrants Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and Morgan Stanley & Co. International plc \(incorporated by reference to Exhibit 10.8 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.8 [Additional Call Option Transaction Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and JPMorgan Chase Bank, National Association, London Branch \(incorporated by reference to Exhibit 10.9 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.9 [Additional Warrants Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and JPMorgan Chase Bank, National Association, London Branch \(incorporated by reference to Exhibit 10.10 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.10 [Additional Call Option Transaction Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and Bank of America, N.A. \(incorporated by reference to Exhibit 10.11 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.13.11 [Additional Warrants Confirmation, dated November 1, 2017, by and between Chart Industries, Inc. and Bank of America, N.A. \(incorporated by reference to Exhibit 10.12 to the Registrant's Current Report on Form 8-K filed with the SEC on November 6, 2017 \(File No. 001-11442\)\).](#)
- 10.14 [Fourth Amended and Restated Credit Agreement, dated June 14, 2019, 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 and JPMorgan Chase Bank, N.A. \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 18, 2019\).](#)
- 10.15 [Amendment No. 1, dated as of April 20, 2020, to the Fourth Amended and Restated Credit Agreement dated as of June 14, 2019 by 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 and JPMorgan Chase Bank, N.A. \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 23, 2020 \(File No. 001-11442\)\).](#)
- 10.16 [Amendment No. 2 dated as of September 28, 2020, to the Fourth Amended and Restated Credit Agreement dated as of June 14, 2019 by 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 and JPMorgan Chase Bank, N.A. \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 1, 2020 \(File No. 001-11442\)\).](#)
- 10.17 [Amendment No. 3, dated as of October 30, 2020, to the Fourth Amended and Restated Credit Agreement dated as of June 14, 2019 by 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 and JPMorgan Chase Bank, N.A. \(x\)](#)
- 21.1 [List of Subsidiaries. \(x\)](#)
- 23.1 [Consent of Independent Registered Public Accounting Firm - Deloitte & Touche. \(x\)](#)
- 23.2 [Consent of Independent Registered Public Accounting Firm - Ernst & Young. \(x\)](#)
- 31.1 [Rule 13a-14\(a\) Certification of the Company's Chief Financial Officer and Chief Executive Officer. \(x\)](#)
- 32.1 [Section 1350 Certification of the Company's Chief Financial Officer and Chief Executive Officer. \(xx\)](#)
- 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.

EXECUTION COPY

AMENDMENT NO. 3

Dated as of October 30, 2020

to

FOURTH AMENDED AND RESTATED CREDIT AGREEMENT

Dated as of June 14, 2019

THIS AMENDMENT NO. 3 (this "Amendment") is made as of October 30, 2020 by and among Chart Industries, Inc., a Delaware corporation (the "Company"), Chart Industries Luxembourg S.à r.l., a private limited liability company (*société à responsabilité limitée*), incorporated under the laws of Luxembourg, having its registered office at 2, rue des Dahlias, L-1411 Luxembourg and registered with the Luxembourg Trade and Companies Register under number B 148.907 ("Chart Luxembourg"), Chart Asia Investment Company Limited, a private limited company incorporated under the laws of Hong Kong with company number 1174361 and having its registered office address at 36/F., Tower Two, Times Square, 1 Matheson Street, Causeway Bay, Hong Kong ("Chart Hong Kong") and, together with the Company and Chart Luxembourg, the "Borrowers"), the financial institutions listed on the signature pages hereof and JPMorgan Chase Bank, N.A., as Administrative Agent (the "Administrative Agent"), under that certain Fourth Amended and Restated Credit Agreement dated as of June 14, 2019 by and among the Borrowers, the Lenders and the Administrative Agent (as amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Credit Agreement.

WHEREAS, the Company has requested that the requisite Lenders and the Administrative Agent agree to a certain amendments to the Credit Agreement;

WHEREAS, the Borrowers, the Lenders party hereto and the Administrative Agent have agreed to amend the Credit Agreement on the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the premises set forth above, the terms and conditions contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrowers, the Lenders party hereto and the Administrative Agent hereby agree to enter into this Amendment.

1. Amendments to the Credit Agreement. Effective as of the date of satisfaction of the conditions precedent set forth in Section 2 below, the parties hereto agree that the Credit Agreement is hereby amended as follows:

(a) Section 1.02 of the Credit Agreement is hereby amended to insert a new sentence at the end thereof as follows:

“Notwithstanding anything to the contrary in this Agreement or in any classification under GAAP as discontinued operations of any Person, business, assets or operations in respect of which a definitive agreement for the disposition thereof has been entered into, for purposes of the calculation of the Interest Coverage Ratio and the

Leverage Ratio, no pro forma effect shall be given to any such discontinued operations (and the Net Income, Consolidated Net Income and/or EBITDA attributable to any such Person, business, assets or operations shall not be excluded for any purposes hereunder) until such disposition shall have been consummated.”

2. Conditions of Effectiveness. The effectiveness of this Amendment (the “Amendment Effective Date”) is subject to the following conditions precedent:

(a) The Administrative Agent shall have received counterparts of this Amendment duly executed by the Borrowers, the Required Lenders and the Administrative Agent.

(b) The Administrative Agent shall have received counterparts of the Consent and Reaffirmation attached as Exhibit A hereto duly executed by the Subsidiary Loan Parties.

(c) The Administrative Agent shall have received payment and/or reimbursement of the Administrative Agent’s and its affiliates’ reasonable and documented fees and expenses (including, to the extent invoiced, reasonable and documented fees and expenses of counsel for the Administrative Agent) in connection with this Amendment and the Loan Documents.

3. Representations and Warranties of the Borrowers. Each Borrower hereby represents and warrants as follows:

(a) This Amendment and the Credit Agreement as modified hereby constitute legal, valid and binding obligations of such Borrower and are enforceable in accordance with their terms, subject to (i) the effects of bankruptcy, insolvency, examinership, moratorium, reorganization, fraudulent conveyance or other similar laws affecting creditors’ rights generally, (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law) and (iii) implied covenants of good faith and fair dealing.

(b) As of the date hereof and after giving effect to the terms of this Amendment, (i) no Event of Default or Default has occurred and is continuing and (ii) the representations and warranties of such Borrower set forth in Article III of the Credit Agreement, as amended hereby, are true and correct in all material respects (provided that any representation and warranty that is qualified by materiality or Material Adverse Effect shall be true and correct in all respects), except to the extent such representations and warranties expressly relate to an earlier date (in which case such representations and warranties shall be true and correct in all material respects as of such earlier date).

4. Reference to and Effect on the Credit Agreement.

(a) Upon the effectiveness hereof, each reference to the Credit Agreement in the Credit Agreement or any other Loan Document shall mean and be a reference to the Credit Agreement as amended hereby.

(b) Each Loan Document and all other documents, instruments and agreements executed and/or delivered in connection therewith shall remain in full force and effect and are hereby ratified and confirmed.

(c) The execution, delivery and effectiveness of this Amendment shall not operate as a waiver of any right, power or remedy of the Administrative Agent or the Lenders, nor constitute a

waiver of any provision of the Credit Agreement, the Loan Documents or any other documents, instruments and agreements executed and/or delivered in connection therewith.

(d) This Amendment is a Loan Document under (and as defined in) the Credit Agreement.

5. Governing Law; Jurisdiction. This Amendment shall be construed in accordance with and governed by the laws of the State of New York. Each of the parties hereto hereby irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of the United States District Court for the Southern District of New York sitting in the Borough of Manhattan (or if such court lacks subject matter jurisdiction, the Supreme Court of the State of New York sitting in the Borough of Manhattan), and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Amendment or any other Loan Document or the transactions relating hereto or thereto, or for recognition or enforcement of any judgment, and each of the parties hereto hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may (and any such claims, cross-claims or third party claims brought against the Administrative Agent or any of its Related Parties may only) be heard and determined in such Federal (to the extent permitted by law) or New York State court.

6. Headings. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose.

7. Counterparts. This Amendment may be executed by one or more of the parties hereto on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. The words “execution,” “signed,” “signature,” “delivery,” and words of like import in or relating to this Amendment and/or any document to be signed in connection with this Amendment and the transactions contemplated hereby shall be deemed to include Electronic Signatures (as defined below), deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be. As used herein, “Electronic Signatures” means any electronic symbol or process attached to, or associated with, any contract or other record and adopted by a person with the intent to sign, authenticate or accept such contract or record.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered by their respective authorized officers as of the day and year first above written.

CHART INDUSTRIES, INC.,
as the Company

Name: By: _____
Title:

CHART INDUSTRIES LUXEMBOURG S.À R.L., as a Foreign Borrower

Name: By: _____
Title:

Name: By: _____
Title:

CHART ASIA INVESTMENT COMPANY LIMITED, as a Foreign Borrower

Name: By: _____
Title:

Name: By: _____
Title:

JPMORGAN CHASE BANK, N.A.,
individually as a Lender, as the Swingline Lender, as the Issuing Bank and as Administrative
Agent

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

BANK OF AMERICA, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

FIFTH THIRD BANK, NATIONAL ASSOCIATION,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

PNC BANK, NATIONAL ASSOCIATION,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

WELLS FARGO BANK, NATIONAL ASSOCIATION,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

BMO HARRIS BANK, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

CITIZENS BANK, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

HSBC BANK USA, NATIONAL ASSOCIATION,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

MUFG UNION BANK, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

CIBC BANK USA,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

BBVA USA, an Alabama banking corporation,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

CAPITAL ONE, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

MORGAN STANLEY BANK, N.A.,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

CREDIT SUISSE AG, Cayman Islands Branch,
as a Lender

By: _____
Name:
Title:

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

CAPITAL BANK,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

SYNOVUS BANK,
as a Lender

By: _____
Name:
Title:

Signature Page to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

EXHIBIT A

Consent and Reaffirmation

Each of the undersigned hereby acknowledges receipt of a copy of the foregoing Amendment No. 3 to the Fourth Amended and Restated Credit Agreement (as the same may be amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), dated as of November 3, 2017, by and among Chart Industries, Inc., a Delaware corporation (the "Company"), Chart Industries Luxembourg S.à r.l., a private limited liability company (*société à responsabilité limitée*), incorporated under the laws of Luxembourg ("Chart Luxembourg"), Chart Asia Investment Company Limited, a private limited company incorporated under the laws of Hong Kong ("Chart Hong Kong" and, together with the Company and Chart Luxembourg, the "Borrowers"), the Lenders and JPMorgan Chase Bank, N.A., as Administrative Agent (the "Administrative Agent"), which Amendment No. 3 is dated as of October 30, 2020 and is by and among the Borrowers, the financial institutions listed on the signature pages thereof and the Administrative Agent (the "Amendment"). Capitalized terms used in this Consent and Reaffirmation and not defined herein shall have the meanings given to them in the Credit Agreement. Without in any way establishing a course of dealing by the Administrative Agent or any Lender, each of the undersigned consents to the Amendment and reaffirms the terms and conditions of the Collateral Agreement and any other Loan Document executed by it and acknowledges and agrees that the Collateral Agreement and each and every such Loan Document executed by the undersigned in connection with the Credit Agreement remains in full force and effect and is hereby reaffirmed, ratified and confirmed. All references to the Credit Agreement contained in the abovereferenced documents shall be a reference to the Credit Agreement as so modified by the Amendment and as the same may from time to time hereafter be amended, modified or restated.

Dated October 30, 2020

[Signature Page Follows]

IN WITNESS WHEREOF, this Consent and Reaffirmation has been duly executed and delivered as of the day and year above written.

CHART INC.
CHART ENERGY & CHEMICALS, INC.
CHART INTERNATIONAL HOLDINGS, INC.
CHART ASIA, INC.
CHART INTERNATIONAL, INC.
CHART COOLER SERVICE COMPANY, INC.
THERMAX, INC.
RCHPH HOLDINGS, INC.
HUDSON PRODUCTS HOLDINGS INC.
HUDSON PARENT CORPORATION
HUDSON PRODUCTS CORPORATION
COFIMCO USA, INC.
HUDSON PRODUCTS MIDDLE EAST LLC
SKAFF, LLC
SKAFF CRYOGENICS, INC.
PREFONTAINE PROPERTIES, INC.
CRYO-LEASE, LLC
E&C FINFAN, INC.
each as a Guarantor and Subsidiary Loan
Party (in each capacity)

By: _____
Name:
Title:

Signature Page to Consent and Reaffirmation to Amendment No. 3 to
Fourth Amended and Restated Credit Agreement dated as of June 14, 2019
Chart Industries, Inc.

**CHART INDUSTRIES, INC.
2017 OMNIBUS EQUITY PLAN**

NONQUALIFIED STOCK OPTION AGREEMENT

THIS NONQUALIFIED STOCK OPTION AGREEMENT (the "Agreement") is entered into as of this [[grantdatewords]] (the "Grant Date"), between Chart Industries, Inc., a Delaware corporation (the "Company"), and [[FIRSTNAME]] [[LASTNAME]] (the "Participant").

WITNESSETH:

WHEREAS, the Compensation Committee of the Board of Directors of the Company (the "Committee") administers the Chart Industries, Inc. 2017 Omnibus Equity Plan (the "Plan"); and

WHEREAS, the Committee has determined that it would be in the best interests of the Company and its stockholders to grant nonqualified stock options to the Participant upon the terms and conditions set forth in this Agreement.

NOW, THEREFORE, the Company and the Participant agree as follows:

1. Interpretation. Unless otherwise specified in this Agreement, capitalized terms shall have the meanings attributed to them under the Plan. The terms and provisions of the Plan, as it may be amended from time to time, are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern, except with respect to Section 4(b) of this Agreement.

2. Grant of the Option. As of the Grant Date, the Company grants to the Participant, under the terms and conditions of this Agreement, the right to purchase all or any part of an aggregate of ([[SHARESGRANTED]]) Shares, which right will vest over a period of time in accordance with Section 4 (the "Option"), subject to adjustment as set forth in Section 3.4 of the Plan. The Option is intended to be a nonqualified stock option.

3. Option Price. The purchase price of the Shares subject to the Option shall be, and shall never be less than, the Fair Market Value of the Shares on the Grant Date. The Fair Market Value of a Share on the Grant Date is [[grantprice]] (the "Option Price"). The Option Price is subject to adjustment as described in Section 3.4 of the Plan.

4. Vesting.

- a. Service-Based. Subject to the Participant's continued Employment as of such dates (except as otherwise provided herein with respect to death, Disability, Retirement or Change in Control), the Option shall vest and become exercisable with respect to twenty-five percent (25%) of the Shares initially covered by the Option on each of the first, second, third and fourth anniversaries of the Grant Date.*
 - b. Change in Control.*
-

i. Company Remains Surviving Entity or Awards Assumed by Successor.

- A. Upon the occurrence of a Change in Control as defined in the Plan in which either (i) the Company remains the surviving entity or (ii) the Company is not the surviving entity, but this Agreement is Assumed (as defined in Section 4(b)(i)(C) below) by the entity (or any successor or parent thereof) that effects such change in control (the “Post-CIC Entity”), the Option shall continue to vest and become exercisable in accordance with the terms of this Agreement unless, during the two-year period commencing on the date of the Change in Control:
1. the Participant’s employment or service is involuntarily terminated by the Company or the Post-CIC Entity, as applicable, for reasons other than for Cause (as defined in Section 4(d)(iii)); or
 2. the Participant terminates the Participant’s employment or service for Good Reason (as defined in Section 4(d)(iv)).
- B. If a Participant’s employment or service is terminated as described in Section 4(b)(i)(A)(1) or (2) above (“Protected Termination”), the Option shall become fully vested and remain exercisable until the earlier of (A) the end of the original term of the Option as provided in the Plan or (B) the second anniversary of the date the Protected Termination occurs; provided, that any Participant who is to incur a Protected Termination in connection with Participant’s employment or service for Good Reason must:
1. provide the Company with a written notice of Participant’s intent to incur a Protected Termination of employment or service for Good Reason within sixty (60) days after the Participant becomes aware of the circumstances giving rise to Good Reason; and
 2. allow the Company thirty (30) days to remedy such circumstances to the extent curable.
- C. For purposes of this Section 4, an Award shall be considered assumed by the Post-CIC Entity (“Assumed”) if all of the following conditions are met:
1. The Option is converted into a replacement award in a manner that complies with Code Section 409A;
 2. the replacement awards contain provisions for scheduled vesting and treatment on Protected Termination of employment (including the definitions of Cause and Good
-

Reason, if applicable) that are no less favorable to the Participant than the Option, and all other terms of the replacement awards (other than the security and number of shares represented by the replacement awards) are substantially similar to, or more favorable to the Participant than, the terms of the Option; and

3. the security represented by the Option is of a class that is publicly held and widely traded on an established stock exchange.

ii. Awards Not Assumed by Successor.

- A. Upon the occurrence of a Change in Control in which the Company is not the surviving Company, if the Option is not Assumed by the Post-CIC Entity, the Option shall become fully vested and exercisable on the date of the Change in Control, and the following provisions of this Section 4(b)(ii) shall apply.
- B. The Participant shall receive a payment equal to the difference between the consideration (consisting of cash or other property (including securities of a successor or parent corporation)) received by holders of Shares in the Change in Control transaction and the exercise price of the applicable Stock Option or SAR, if such difference is positive. Such payment shall be made in the same form as the consideration received by holders of Shares. If the Option has an exercise price that is higher than the per share consideration received by holders of Shares in connection with the Change in Control, the Option shall be cancelled for no additional consideration.
- C. The payments contemplated by Sections 4(b)(ii)(B) shall be made at the same time as consideration is paid to the holders of Shares in connection with the Change in Control, provided such payments are made no later than the fifth anniversary of the Change in Control.

c. Termination of Employment

- i. General Rule. If the Participant's Employment is terminated for any reason other than those reasons specifically addressed in Section 4(c), and except as otherwise provided in Section 4(b), the Unvested Portion of the Option shall be canceled and the Participant shall have no further rights with respect thereto and the Vested Portion of the Option shall remain exercisable for the period set forth in Section 5(a) of this Agreement.
 - ii. Death or Disability. If the Participant's Employment terminates as a result of death or Disability, the Option shall, to the extent not then vested and not previously canceled, immediately become fully vested and exercisable.
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iii. Retirement. If the Participant's Employment terminates as a result of Retirement and the Participant will have continued vesting of unvested stock options that would have otherwise vested in the year following the year in which the Participant retires. The remaining unvested options are forfeited.

d. Special Terms.

- i. At any time, the portion of the Option which has become vested and exercisable as described above is referred to as the "Vested Portion," and the portion of the Option which is then unvested is referred to as the "Unvested Portion."
 - ii. The term "Retirement" or variations thereof means a voluntary termination of Employment with the Company, its Subsidiaries and its Affiliates after either (i) attaining age 60 and completing 10 years of service with such entities or (ii) attaining age 65 and completing 5 years of service with such entities.
 - iii. "Cause" shall mean, with respect to the Participant, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Participant. If the Participant has not entered into any employment, severance, or change in control agreement with a definition of Cause, then "Cause" means (i) the Participant's willful failure to perform duties which, if curable, is not cured promptly, or in any event within ten (10) days, following the first written notice of such failure from the Company, (ii) the Participant's commission of, or plea of guilty or no contest to a (x) felony or (y) crime involving moral turpitude, (iii) willful malfeasance or misconduct by the Participant which is demonstrably injurious to the Company or its Subsidiaries or Affiliates, (iv) material breach by the Participant of any non-competition, non-solicitation or confidentiality covenants, (v) commission by the Participant of any act of gross negligence, corporate waste, disloyalty or unfaithfulness to the Company which adversely affects the business of the Company or its Subsidiaries or Affiliates, or (vi) any other act or course of conduct by the Participant which will demonstrably have a material adverse effect on the Company, a Subsidiary or Affiliate's business; and
 - iv. "Good Reason" means, with respect to the Participant, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Participant. If the Participant has not entered into any employment, severance, or change in control agreement with a definition of Good Reason, then "Good Reason" means without the Participant's consent, (i) a material diminution in the Participant's authority, position or duties, or a material adverse change in reporting lines, (ii) Participant's principal place of employment with the Company or Post-CIC Entity is relocated a material distance (which for this purpose shall be deemed to be more than 50 miles) from such Participant's principal place of employment immediately prior to the Change in Control, (iii) any reduction in the Participant's base salary and
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(excluding any general salary reduction affecting similarly situated employees of the Company as a result of a material adverse change in the Company's prospects or business), or (iv) the Participant is excluded, following a Change in Control (other than through Participant's voluntary action(s)), from full participation in any benefit plan or arrangement maintained for similarly situated employees of the Company or Post-CIC Entity, and such exclusion materially reduces the benefits that otherwise would have been available to the Participant, in each case which is not cured within thirty (30) days following the Company's receipt of written notice from the Participant describing the event constituting Good Reason.

- v. "Disability" shall mean, with respect to the Participant, a medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months which: (i) renders the Participant unable to engage in substantial gainful activity or (ii) results in the Participant receiving income replacement benefits for at least three months under an accident and health plan sponsored by the Participant's employer.

5. Exercise of Option.

*a. **Period of Exercise. Except as otherwise provided in Section 4(b)(i)(B) above, and subject to the provisions of the Plan and this Agreement, the Participant (or his or her successor, as appropriate) may exercise all or any part of the Vested Portion of the Option at any time prior to the earliest to occur of:***

- i. the tenth anniversary of the Grant Date;**
- ii. the first anniversary of the Participant's termination of Employment due to death or Disability;**
- iii. the fifth anniversary of the Participant's termination of Employment due to Retirement;
- iv. thirty (30) days following the date of the Participant's termination of Employment by the Participant without Good Reason (other than Retirement) or by the Company or its Affiliates for Cause; and
- v. ninety (90) days following the date of the Participant's termination of Employment for reasons other than the reasons described in Section 5(a)(ii), 5(a)(iii) and 5(a)(iv) above.**

b. Method of Exercise.

- i. Subject to Section 5(a), the Vested Portion of the Option may be exercised by delivering written notice of intent to so exercise to the Company at its principal office; provided that, the Option may be exercised with respect to whole Shares only. Such notice shall specify the number of Shares for which the Option is being exercised and shall be accompanied by full payment of the Option Price. Payment of the**
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Option Price may be made at the election of the Participant: (w) in cash or its equivalent (e.g., by check); (x) to the extent permitted by the Committee, in Shares having a Fair Market Value as of the payment date equal to the aggregate Option Price for the Shares being purchased and satisfying such other requirements imposed by the Committee, provided that such Shares have been held by the Participant for more than six months (or such other period as established from time to time by the Committee); (y) partially in cash and, to the extent permitted by the Committee, partially in such Shares; or (z) if there is a public market for the Shares on the payment date, subject to such rules as may be established by the Committee, through the delivery of irrevocable instructions to a broker to sell Shares obtained upon the exercise of the Option and to deliver promptly to the Company an amount out of the proceeds of such sale equal to the aggregate Option Price for the Shares being purchased. No Participant shall have any rights to dividends or other rights of a stockholder with respect to Shares subject to an Option until the Participant has given written notice of exercise of the Option, paid the full Option Price for such Shares and, if applicable, satisfied any other requirements imposed by the Committee.

- ii. Notwithstanding any other provision of the Plan or this Agreement to the contrary, the Option may not be exercised prior to the completion of any registration or qualification of the Option or the Shares under applicable state and federal securities or other laws, or under any ruling or regulation of any governmental body or national securities exchange that the Committee determines, in its sole discretion, to be necessary or advisable.**
- iii. Upon the Committee's determination that the Option has been validly exercised as to any of the Shares, the Company shall issue certificates in the Participant's name for such Shares. However, the Company shall not be liable to any person or entity for damages relating to any delays in issuing the certificates, any loss of the certificates or any mistakes or errors in the issuance of the certificates or in the certificates themselves.**
- iv. In the event of the Participant's death, the Vested Portion of the Option shall remain exercisable by the Participant's successor to the extent set forth in Section 5(a). No beneficiary, executor, administrator, heir or legatee of the Participant shall have greater rights than the Participant under this Agreement or otherwise.**

6. Designation of Beneficiary. By properly executing and delivering a Designation of Beneficiary Form to the Company, the Participant may designate an individual or individuals as his or her beneficiary or beneficiaries with respect to his or her interest under the Plan. If the Participant fails to properly designate a beneficiary, his or her interests under this Agreement will pass to the person or persons in the first of the following classes (who shall be deemed a beneficiary or beneficiaries) in which there are any survivors: (i) spouse at the time of death; (ii) issue, per stirpes; (iii) parents; and (iv) the estate. Except as the Company may determine in its sole and exclusive discretion, a properly completed

Designation of Beneficiary Form shall be deemed to revoke all prior designations upon its receipt and approval by the designated representative.

7. **Non-Transferability of Option.** The Option (and any portion thereof) may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by the Participant other than by beneficiary designation pursuant to this Agreement or the laws of descent and distribution, and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable. No permitted transfer of the Option shall be effective to bind the Company unless the Committee is furnished with written notice thereof and a copy of such evidence as the Committee may deem necessary or appropriate to establish the validity of the transfer and the acceptance by the transferee or transferees of the terms and conditions of the Plan and this Agreement. During the Participant's lifetime, the Option is exercisable only by the Participant.

8. **Non-Transferability of Shares; Legends.** Upon the acquisition of any Shares pursuant to the exercise of the Option, if the Shares have not been registered under the Securities Act of 1933, as amended (the "Act"), they may not be sold, transferred or otherwise disposed of unless a registration statement under the Act with respect to the Shares has become effective or unless the Participant establishes to the satisfaction of the Company that an exemption from such registration is available. The Shares will bear a legend stating the substance of such restrictions, as well as any other restrictions the Committee deems necessary or appropriate. In addition, the Participant will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or this Agreement.

9. **Plan Administration.** The Plan is administered by the Committee, which has sole and exclusive power and discretion to interpret, administer, implement and construe the Plan and this Agreement. All elections, notices and correspondence relating to the Plan should be directed to the Secretary at:

Chart Industries, Inc.
3055 Torrington Drive
Ball Ground, GA 30107
Attn.: Secretary

10. **Notices.** Any notice relating to this Agreement intended for the Participant will be sent to the address appearing in the personnel records of the Company, its Affiliate or its Subsidiary. Either party may designate a different address in writing to the other. Any notice shall be deemed effective upon receipt by the addressee.

11. **Successors and Legal Representatives.** This Agreement will bind and inure to the benefit of the Company and the Participant and their respective heirs, beneficiaries, executors, administrators, estates, successors, assigns and legal representatives.

12. **Withholding.** The Participant may be required to pay to the Company or any Affiliate and the Company or any Affiliate shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Option, its exercise or any payment or transfer under or with respect to the Option and to take such other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes.

13. Integration. This Agreement, together with the Plan, constitutes the entire agreement between the Participant and the Company with respect to the subject matter hereof. No terms of this Agreement shall be construed as amending the Plan in any respect. In the event of any conflict between the provisions of the Plan as in effect on the date hereof and the provisions of this Agreement, the provisions of the Plan shall govern, except with respect to Section 4(b) of this Agreement. This Agreement and the Plan may not be modified, amended, renewed or terminated, nor may any term, condition or breach of any term or condition be waived, except pursuant to the terms of the Plan or Section 21 below or by a writing signed by the person or persons sought to be bound by such modification, amendment, renewal, termination or waiver. Any waiver of any term, condition or breach thereof will not be a waiver of any other term or condition or of the same term or condition for the future, or of any subsequent breach.

14. Separability. In the event of the invalidity of any part or provision of this Agreement, such invalidity will not affect the enforceability of any other part or provision of this Agreement.

15. Incapacity. If the Committee determines that the Participant is incompetent by reason of physical or mental disability or a person incapable of handling his or her property, the Committee may deal directly with, or direct any issuance of Shares to, the guardian, legal representative or person having the care and custody of the incompetent or incapable person. The Committee may require proof of incompetence, incapacity or guardianship, as it may deem appropriate before making any issuance. In the event of an issuance of Shares, the Committee will have no obligation thereafter to monitor or follow the application of the Shares issued. Issuances made pursuant to this paragraph shall completely discharge the Company's obligations under this Agreement.

16. No Further Liability. The liability of the Company, its Affiliates, and its Subsidiaries under this Agreement is limited to the obligations set forth herein and no terms or provisions of this Agreement shall be construed to impose any liability on the Company, its Affiliates, its Subsidiaries or the Committee in favor of any person or entity with respect to any loss, cost, tax or expense which the person or entity may incur in connection with or arising from any transaction related to this Agreement.

17. Section Headings. The section headings of this Agreement are for convenience and reference only and are not intended to define, extend or limit the contents of the sections.

18. No Right to Continued Employment. Nothing in this Agreement will be construed to confer upon the Participant the right to continue in the Employment of the Company, its Subsidiaries or its Affiliates, or to be employed or serve in any particular position therewith, or affect any right the Company, its Subsidiaries or its Affiliates may have to terminate the Participant's Employment or service with or without cause.

19. Governing Law. This Agreement will be governed by, construed and enforced in accordance with the internal laws of the State of Delaware, without giving effect to its principles of conflict of laws.

20. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures were upon the same instrument.

21. Amendment. The Committee may waive any conditions or rights under, amend any terms of, or alter, suspend, discontinue, cancel or terminate this Agreement, but no such waiver, amendment,

alteration, suspension, discontinuance, cancellation or termination shall materially adversely affect the rights of the Participant hereunder without the consent of the Participant; provided, however, that the Participant's consent shall not be required to an amendment that is deemed necessary or appropriate by the Company to ensure (a) compliance with (or exemption from) Section 409A of the Code; (b) compliance with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 or any regulations promulgated thereunder (the "Dodd-Frank Act"); or (c) compliance with the terms of any recoupment or "clawback" policy the Company adopts to comply with the requirements of the Dodd-Frank Act or any regulations promulgated thereunder (even if the terms of that policy are broader than the requirements of the Dodd-Frank Act).

22. Section 409A of the Code. It is intended that this Agreement and the compensation and benefits hereunder meet the requirements for exemption from Code Section 409A set forth in Treas. Reg. Section 1.409A-1(b)(5), as well as any other such applicable exemption, and this Agreement shall be so interpreted and administered. In addition to the general amendment rights of the Company with respect to the Plan, the Company specifically retains the unilateral right (but not the obligation) to make, prospectively or retroactively, any amendment to this Agreement or any related document as it deems necessary or desirable to more fully address issues in connection with exemption from (or compliance with) Section 409A of the Code and other laws. In no event, however, shall this section or any other provisions of this Agreement be construed to require the Company to provide any grossup for the tax consequences of any provisions of, or payments under, this Agreement. Except as may be provided in another agreement to which the Company is bound, the Company and its Affiliates shall have no responsibility for tax or legal consequences to the Participant (or the Participant's beneficiaries) resulting from the terms or operation of this Agreement or the Plan.

23. Adjustment of Number of Shares, Etc. Subject to Section 3.4 of the Plan, if, after the Grant Date, the Committee determines that any dividend or other distribution (whether in the form of cash, Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, redesignation, reclassification, merger, consolidation, liquidation, split-up, reverse split, spin-off, combination, repurchase or exchange of Shares or other securities of the Company, issuance of warrants or other rights to purchase Shares or other securities of the Company or other similar corporate transaction or event affects the Shares such that an adjustment is determined by the Committee to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under this Agreement, then the Committee may, in such manner as it deems equitable, adjust any or all of (i) the number and type of Shares (or other securities or other property) subject to the Option and (ii) the Option Price. Any such adjustment shall be final, binding and conclusive as to the Participant. Any such adjustment may provide for the elimination of fractional shares if the Committee shall so direct.

By Participant's signature and the signature of the Company's representative below, or by Participant's acceptance of this Award through the Company's online acceptance procedure, this Agreement shall be deemed to have been executed and delivered by the parties hereto as of the Grant Date. Participant hereby acknowledges that the treatment of the Option upon a Change in Control, as set forth in Section 4(b) hereof, differs from and supersedes the treatment set forth in Section 12.2 of the Plan.

Participant Chart Industries, Inc.

[[SIGNATURE]] By: [[SIGNATURE]]

Print Name: [[FIRSTNAME]] [[LASTNAME]] Its: [[TITLE]]

Date: [[SIGNATURE_DATE]] Date: [[SIGNATURE_DATE]]

**CHART INDUSTRIES, INC.
2017 OMNIBUS EQUITY PLAN**

PERFORMANCE UNIT AGREEMENT

THIS PERFORMANCE UNIT AGREEMENT (the “Agreement”), is entered into as of this [[grantdatewords]] (the “Grant Date”), by and between Chart Industries, Inc., a Delaware corporation (the “Company”), and [[FIRSTNAME]] [[LASTNAME]] (the “Grantee”).

WITNESSETH:

WHEREAS, the Compensation Committee of the Board of Directors of the Company (the “Committee”) administers the Chart Industries, Inc. 2017 Omnibus Equity Plan (the “Plan”); and

WHEREAS, the Committee desires to provide the Grantee with Performance Units under the Plan upon the terms and conditions set forth in this Agreement.

NOW, THEREFORE, the Company and the Grantee agree as follows:

1. Definitions. Unless the context otherwise indicates, the following words used herein shall have the following meanings wherever used in this Agreement:

- a. “Cause” means, with respect to the Grantee, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Grantee. If the Grantee has not entered into any employment, severance, or change in control agreement with a definition of Cause, then “Cause” means (i) the Grantee’s willful failure to perform duties which, if curable, is not cured promptly, or in any event within ten (10) days, following the first written notice of such failure from the Company, (ii) the Grantee’s commission of, or plea of guilty or no contest to a (x) felony or (y) crime involving moral turpitude, (iii) willful malfeasance or misconduct by the Grantee which is demonstrably injurious to the Company or its Subsidiaries or Affiliates, (iv) material breach by the Grantee of any non-competition, non-solicitation or confidentiality covenants, (v) commission by the Grantee of any act of gross negligence, corporate waste, disloyalty or unfaithfulness to the Company which adversely affects the business of the Company or its Subsidiaries or Affiliates, or (vi) any other act or course of conduct by the Grantee which will demonstrably have a material adverse effect on the Company, a Subsidiary or Affiliate’s business.
 - b. “Disability” means, with respect to the Grantee, a medically determinable physical or mental impairment which can be expected to result in death or
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can be expected to last for a continuous period of not less than 12 months which: (i) renders the Grantee unable to engage in substantial gainful activity or (ii) results in the Grantee receiving income replacement benefits for at least three months under an accident and health plan sponsored by the Grantee's employer.

- c. "Good Reason" means, with respect to the Grantee, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Grantee. If the Grantee has not entered into any employment, severance, or change in control agreement with a definition of Good Reason, then "Good Reason" means without the Grantee's consent, (i) a material diminution in the Grantee's authority, position or duties, or a material adverse change in reporting lines, (ii) Grantee's principal place of employment with the Company or Post-CIC Entity is relocated a material distance (which for this purpose shall be deemed to be more than 50 miles) from such Grantee's principal place of employment immediately prior to the Change in Control, (iii) any reduction in the Grantee's base salary and (excluding any general salary reduction affecting similarly situated employees of the Company as a result of a material adverse change in the Company's prospects or business), or (iv) the Grantee is excluded, following a Change in Control (other than through Grantee's voluntary action(s)), from full participation in any benefit plan or arrangement maintained for similarly situated employees of the Company or Post-CIC Entity, and such exclusion materially reduces the benefits that otherwise would have been available to the Grantee, in each case which is not cured within thirty (30) days following the Company's receipt of written notice from the Grantee describing the event constituting Good Reason.
 - d. "Performance Period" means the period set forth in Exhibit A.
 - e. "Performance Requirements" means the performance measure(s) set forth in Exhibit A.
 - f. "Performance Unit" means a Restricted Share Unit representing the right to receive a Share after completion of the Performance Period provided that the Performance Requirements have been satisfied.
 - g. "Retirement" (or variations thereof) means a voluntary termination of Employment with the Company, its Subsidiaries and its Affiliates after either (i) attaining age 60 and completing 10 years of service with such entities or (ii) attaining age 65 and completing 5 years of service with such entities.
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Notwithstanding this Section, and unless otherwise specified in the Agreement, capitalized terms shall have the meanings attributed to them under the Plan.

2. Grant of Performance Units. As of the Grant Date, the Company grants to the Grantee, upon the terms and conditions set forth in this Agreement, ([[SHARESGRANTED]]) Performance Units. If the Grantee is a Section 162(m) Person, the Performance Units are intended to be Section 162(m) of the Code “performance-based compensation.” The Performance Units are granted in accordance with, and subject to, all the terms, conditions and restrictions of the Plan, which is hereby incorporated by reference in its entirety. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern, except with respect to Section 5 of this Agreement. The Grantee irrevocably agrees to, and accepts, the terms, conditions and restrictions of the Plan and this Agreement on his own behalf and on behalf of any beneficiaries, heirs, legatees, successors and assigns.

3. Restrictions on Transfer of Performance Units. The Grantee and his or her beneficiaries, heirs, legatees, successors and assigns cannot sell, transfer, assign, pledge, hypothecate or otherwise directly or indirectly dispose of the Performance Units (whether with or without consideration and whether voluntarily or involuntarily or by operation of law) or any interest therein.

4. Termination of Employment.

a. Retirement, Death or Disability. If the Grantee terminates Employment as a result of Retirement, death or Disability prior to the last day of the Performance Period, the Grantee (or his or her beneficiary or beneficiaries) shall be entitled to a pro-rated number of Shares, calculated by multiplying (x) by (y) where:

(x) is the number of Shares, if any, that would have been earned by the Grantee as the result of the satisfaction of the Performance Requirements; and

(y) is the number of months that the Grantee was employed (rounded up to the nearest whole number) during the Performance Period divided by the number of months in the Performance Period.

The distribution or payment of the pro-rated award shall occur (if at all) at the same time as the distribution or payment specified in Section 6.

b. Reasons Other Than Retirement, Death or Disability. Except as otherwise provided in Section 5, if the Committee determines in its sole and exclusive discretion that the Grantee’s Employment has terminated prior to the end of the Performance Period for reasons other than those described in Section 4(a) above, the Grantee will forfeit his or her

Performance Units. If the Performance Units are forfeited, the Grantee and all persons who might claim through him or her will have no further interests under this Agreement.

5. Change in Control.

a. Company Remains Surviving Entity or Awards Assumed by Successor.

- i. Upon the occurrence of a Change in Control as defined in the Plan in which either (i) the Company remains the surviving entity or (ii) the Company is not the surviving entity, but the Performance Units granted pursuant to this Agreement are Assumed (as defined in Section 5(a)(iii) below) by the entity (or any successor or parent thereof) that effects such change in control (the "Post-CIC Entity"), any Performance Units granted pursuant to this Agreement prior to the Change in Control shall continue to vest in accordance with the terms of this Agreement unless, during the two-year period commencing on the date of the Change in Control:
 - A. the Grantee's employment or service is involuntarily Terminated by the Company or the Post-CIC Entity, as applicable, for reasons other than for Cause; or
 - B. the Grantee Terminates Grantee's employment or service for Good Reason.
 - ii. If a Grantee's employment or service is terminated as described in Section 5(a)(i)(A) or (B) above (a "Protected Termination"), the Performance Units granted to Grantee pursuant to this Agreement shall immediately be earned or vest in a prorated amount (as described below) and such prorated portion shall, to the extent permitted under Code Section 409A without resulting in adverse tax effects to the Grantee, become immediately payable in accordance with the Award's terms; provided, that if the Grantee intends to incur a Protected Termination of Grantee's employment or service for Good Reason, Grantee must:
 - A. provide the Company with a written notice of Grantee's intent to incur a Protected Termination of employment or service for Good Reason within sixty (60) days after the Grantee becomes aware of the circumstances giving rise to Good Reason; and
 - B. allow the Company thirty (30) days to remedy such circumstances to the extent curable.
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For purposes of this Section 5(a)(ii), the “prorated amount” will be based on the actual level of achievement against the Performance Requirements during the Performance Period up to the date of the Change in Control and the number of full months that elapsed during the Performance Period up to, and as of, the date of the Change in Control. The Committee may, in good faith, adjust performance goals to account for the shortened Performance Period.

iii. For purposes of this Section 5, the Performance Units granted pursuant to this Agreement shall be considered assumed by the Post-CIC Entity (“Assumed”) if all of the following conditions are met:

- A. Such Performance Units are converted into replacement awards that preserve the value of such Performance Units at the time of the Change in Control;
- B. the replacement awards contain provisions for scheduled vesting and treatment on a Protected Termination of employment (including the definitions of Cause and Good Reason, if applicable) that are no less favorable to the Grantee than the underlying Performance Units, and all other terms of the replacement awards (other than the security and number of shares represented by the replacement awards) are substantially similar to, or more favorable to the Grantee than, the terms of this Agreement; and
- C. the security represented by the replacement awards, if any, is of a class that is publicly held and widely traded on an established stock exchange.

b. Awards Not Assumed by Successor.

- i. Upon the occurrence of a Change in Control in which the Company is not the surviving Company, a prorated amount (as described below) of any Performance Units granted pursuant to this Agreement that are subject to Performance Requirements and that are not Assumed by the Post-CIC Entity shall immediately vest and become immediately payable in accordance with its terms (subject to Section 5(c)), and this Section 5(b) shall apply.

For purposes of this Section 5(b), the “prorated amount” will be based on the actual level of achievement against the Performance Requirements during the Performance Period up to, and as of, the date of the Change in Control and the number of full months that

elapsed during the Performance Period up to the date of the Change in Control. The Committee may, in good faith, adjust performance goals to account for the shortened Performance Period.

- ii. The payments contemplated by this Section 5(b) shall be made at the same time as consideration is paid to the holders of Shares in connection with the Change in Control, provided such payments are made no later than the fifth anniversary of the Change in Control.

6. Distributions. Within 60 days after satisfaction or deemed satisfaction of the Performance Requirements:

- a. with respect to Shares earned under Sections 4 or 5, the Company will deliver to Grantee (or his or her beneficiary or beneficiaries) certificates for the Shares to which Grantee is entitled, subject to any applicable securities law restrictions; and
- b. with respect to Shares otherwise earned under this Agreement, the Company will issue to the Grantee the Shares to which Grantee is entitled, subject to any applicable securities law restrictions, and provided that the Grantee is in active Employment on the last day of the Performance Period.

For purposes of this Section 6, “earned” Shares are those Shares to which the Grantee is entitled based upon the Earned Performance Units (as described in Exhibit A) and the terms of Section 4 or 5, if applicable. Upon distribution of Shares, the recipient and all persons who might claim through him or her shall have no remaining interest under this Agreement.

7. Dividend and Voting Rights. The Grantee will not have any voting rights or be entitled to any dividends with respect to Performance Units unless and until the Performance Requirements are timely satisfied and Shares have actually been issued to the Grantee. No dividends or dividend equivalents will be paid to the Grantee based upon interests in the Performance Units during the Performance Period.

8. Designation of Beneficiary. By properly executing and delivering a Designation of Beneficiary Form to the Company, the Grantee may designate an individual or individuals as his or her beneficiary or beneficiaries with respect to his or her interest under this Agreement. If the Grantee fails to properly designate a beneficiary, his or her interests under this Agreement will pass to the person or persons in the first of the following classes (who shall be deemed a beneficiary or beneficiaries) in which there are any survivors: (i) spouse at the time of death; (ii) issue, *per stirpes*; (iii) parents; and (iv) the estate. Except as the Company may determine in its sole and exclusive discretion, a properly completed Designation of Beneficiary Form shall be deemed to revoke all prior designations with respect to this Agreement (or, if the form so

provides, the Plan) upon its receipt and approval by the designated representative of the Company.

9. Non-Transferability of Shares; Legends. Upon the acquisition of any Shares pursuant to this Agreement, if the Shares have not been registered under the Securities Act of 1933, as amended (the “Act”), they may not be sold, transferred or otherwise disposed of unless a registration statement under the Act with respect to the Shares has become effective or unless the Grantee establishes to the satisfaction of the Company that an exemption from such registration is available. The Shares will bear a legend stating the substance of such restrictions, as well as any other restrictions the Committee deems necessary or appropriate. In addition, the Grantee will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or this Agreement.

10. Effect of Corporate Reorganization or Other Changes Affecting Number or Kind of Shares. The provisions of this Agreement will be applicable to the performance units, Shares or other securities, if any, which may be acquired by the Grantee related to the Performance Units as a result of any dividend or other distribution (whether in the form of cash, Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, redesignation, reclassification, merger, consolidation, liquidation, split-up, reverse split, spin-off, combination, repurchase or exchange of Shares or other securities of the Company, issuance of warrants or other rights to purchase Shares or other securities of the Company or other similar corporate transaction or event. Subject to Section 3.4 of the Plan, the Committee may appropriately adjust the number and kind of performance units or Shares described in this Agreement to reflect such a change.

11. Plan Administration. The Plan is administered by the Committee, which has sole and exclusive power and discretion to interpret, administer, implement and construe the Plan and this Agreement. All elections, notices and correspondence relating to the Plan should be directed to the Secretary at:

Chart Industries, Inc.
3055 Torrington Drive
Ball Ground, GA 30107
Attn.: Secretary

12. Notices. Any notice relating to this Agreement intended for the Grantee will be sent to the address appearing in the personnel records of the Company, its Affiliate or its Subsidiary. Either party may designate a different address in writing to the other. Any notice shall be deemed effective upon receipt by the addressee.

13. Termination of Agreement. This Agreement will terminate on the earliest of: (a) the last day of the Performance Period if the Performance Requirements are not satisfied; (b) the date of termination of the Grantee’s Employment for reasons referenced in Section 4(b) prior to the last day of the Performance Period; or (c) the date that Shares are delivered to the Grantee (or

his or her beneficiary or beneficiaries). Any terms or conditions of this Agreement that the Company determines are reasonably necessary to effectuate its purposes will survive the termination of this Agreement. Without limiting the generality of the foregoing, the termination of this Agreement will not affect any obligation the Grantee may have, as determined by the Committee in its sole discretion, under any recoupment or “clawback” policy adopted by the Company.

14. Successors and Legal Representatives. This Agreement will bind and inure to the benefit of the Company and the Grantee and their respective heirs, beneficiaries, executors, administrators, estates, successors, assigns and legal representatives.

15. Integration. This Agreement, together with the Plan, constitutes the entire agreement between the Grantee and the Company with respect to the subject matter hereof. No terms of this Agreement shall be construed as amending the Plan in any respect. In the event of any conflict between the provisions of the Plan as in effect on the date hereof and the provisions of this Agreement, the provisions of the Plan shall govern, except with respect to Section 5 of this Agreement. This Agreement and the Plan may not be modified, amended, renewed or terminated, nor may any term, condition or breach of any term or condition be waived, except pursuant to the terms of the Plan or Section 23 below or by a writing signed by the person or persons sought to be bound by such modification, amendment, renewal, termination or waiver. Any waiver of any term, condition or breach thereof will not be a waiver of any other term or condition or of the same term or condition for the future, or of any subsequent breach.

16. Separability. In the event of the invalidity of any part or provision of this Agreement, such invalidity will not affect the enforceability of any other part or provision of this Agreement.

17. Incapacity. If the Committee determines that the Grantee is incompetent by reason of physical or mental disability or a person incapable of handling his or her property, the Committee may deal directly with or direct any payment to the guardian, legal representative or person having the care and custody of the incompetent or incapable person. The Committee may require proof of incompetence, incapacity or guardianship, as it may deem appropriate before making any payment. In the event of a payment, the Committee will have no obligation thereafter to monitor or follow the application of the amounts so paid. Payments pursuant to this paragraph shall completely discharge the Company with respect to such payments.

18. No Further Liability. The liability of the Company, its Affiliates and its Subsidiaries under this Agreement is limited to the obligations set forth herein and no terms or provisions of this Agreement shall be construed to impose any liability on the Company, its Affiliates, its Subsidiaries or the Committee in favor of any person or entity with respect to any loss, cost, tax or expense which the person or entity may incur in connection with or arising from any transaction related to this Agreement.

19. Section Headings. The section headings of this Agreement are for convenience and reference only and are not intended to define, extend or limit the contents of the sections.

20. No Right to Continued Employment. Nothing in this Agreement will be construed to confer upon the Grantee the right to continue in the employment or service of the Company, its Subsidiaries or Affiliates, or to be employed or serve in any particular position therewith, or affect any right which the Company, its Subsidiaries or an Affiliate may have to terminate the Grantee's employment or service with or without cause.

21. Governing Law. Except as may otherwise be provided in the Plan, this Agreement will be governed by, construed and enforced in accordance with the internal laws of the State of Delaware, without giving effect to its principles of conflict of laws.

22. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures were upon the same instrument.

23. Amendment. The Committee may waive any conditions or rights under, amend any terms of, or alter, suspend, discontinue, cancel or terminate this Agreement, but no such waiver, amendment, alteration, suspension, discontinuance, cancellation or termination shall materially adversely affect the rights of the Grantee hereunder without the consent of the Grantee; *provided, however*, that the Grantee's consent shall not be required to an amendment that is deemed necessary or appropriate by the Company to ensure (a) compliance with (or exemption from) Section 409A of the Code; (b) compliance with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 or any regulations promulgated thereunder (the "Dodd-Frank Act"); or (c) compliance with the terms of any recoupment or "clawback" policy the Company adopts to comply with the requirements of the Dodd-Frank Act or any regulations promulgated thereunder (even if the terms of that policy are broader than the requirements of the Dodd-Frank Act).

24. Withholding. The Grantee shall be required to pay to the Company or any Affiliate and the Company or any Affiliate shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Award or payment of Shares thereunder, or any payment or transfer under or with respect to the Award or Shares and to take such other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes. Unless the Grantee makes other arrangements that are satisfactory to the Committee to cover the Company's or its Affiliate's withholding obligations, at any time that taxes are required to be withheld in connection with this Award, the Company shall withhold Shares from this Award with a Fair Market Value equal to the amount required to satisfy the minimum tax withholding obligations applicable to Grantee relating to this Award.

25. Section 409A of the Code. This Agreement, together with the Plan, constitutes the entire agreement between the parties with respect to the subject matter hereof. The parties intend that this Agreement be, at all relevant times, exempt from (or in compliance with) Section 409A of the Code and all other applicable laws, and this Agreement shall be so interpreted and administered. In addition to the general amendment rights of the Company with respect to the

Plan, the Company specifically retains the unilateral right (but not the obligation) to make, prospectively or retroactively, any amendment to this Agreement or any related document as it deems necessary or desirable to more fully address issues in connection with exemption from (or in compliance with) Section 409A of the Code and other laws. In no event, however, shall this section or any other provisions of this Agreement be construed to require the Company to provide any grossup for the tax consequences of any provisions of, or payments under, this Agreement. Except as may be provided in another agreement to which the Company is bound, the Company and its Affiliates shall have no responsibility for tax or legal consequences to the Grantee (or the Grantee's beneficiaries) resulting from the terms or operation of this Agreement or the Plan.

[Signature Page Follows]

By Grantee's signature and the signature of the Company's representative below, or by Grantee's acceptance of this Award through the Company's online acceptance procedure, this Agreement shall be deemed to have been executed and delivered by the parties hereto as of the Grant Date. Grantee hereby acknowledges that the treatment of the Performance Units upon a Change in Control, as set forth in Section 5 hereof, differs from and supersedes the treatment set forth in Section 12.2 of the Plan.

Grantee Chart Industries, Inc.

[[SIGNATURE]] By: [[SIGNATURE]]

Print Name: [[FIRSTNAME]] [[LASTNAME]] Its: [[TITLE]]

Date: [[SIGNATURE_DATE]] Date: [[SIGNATURE_DATE]]

EXHIBIT A

PERFORMANCE REQUIREMENTS

Performance Period

The Performance Period begins on January 1, 2021 and ends on December 31, 2023.

Performance Measure(s)

The Performance Measure is weighted 50% based on Return on Investment, and 50% based on Operating Income:

Return on Investment - Return on Investment (“ROI”) is determined by the following formula:

$$\frac{(\text{Operating Income}) \times (1 \text{ minus the Company's Effective Tax Rate})}{\text{Average Capital}^\# \text{ of last 2 years}}$$

[#]Capital = Total Shareholder’s Equity + Noncontrolling Interest + ST Debt + LT Debt minus Cash

Where,

- “Operating Income” is the sum of the last twelve months of Total Sales less Cost of Sales and Operating Expenses (excluding nonrecurring items, such as impairment charges and unusual loss or gain on disposal of assets);
- “Noncontrolling Interest” is, with respect to subsidiaries of the Company that are not fully owned by the Company, the portion of the equity of such subsidiaries that is not owned by the Company;
- “ST Debt” is debt that is due within one year;
- “LT Debt” is debt that is due longer than one year; and
- “Cash” is cash and cash equivalents.

For avoidance of doubt, debt shall include items customarily considered to be debt on the Company’s audited consolidated balance sheet. For example, the following items are considered to be debt on the Company’s consolidated balance sheet: short-term debt; current convertible notes; current portion of long-term debt; long-term debt; and convertible notes conversion feature.

Operating Income – The sum of the last twelve months of Total Sales less Cost of Sales and Operating Expenses (excluding nonrecurring items, such as impairment charges and unusual loss or gain on disposal of assets).

Measurement Period will be January 1, 2021 through December 31, 2021.

The second Measurement Period will be January 1, 2022 through December 31, 2022.

The third Measurement Period will be January 1, 2023 through December 31, 2023.

At the end of each Measurement Period, the Company’s ROI and Operating Income for such period will be calculated by the Committee. The calculations shall be based on the information provided in the Company’s audited consolidated financial statements, subject to any adjustments as described in this Exhibit A. Then, after the end of the third Measurement Period:

- the average annual ROI will be calculated by adding the ROI for each Measurement Period and dividing the sum by three (the “Average Annual ROI”); and
- the average annual Operating Income will be calculated by adding the Operating Income for each Measurement Period and dividing the sum by three (the “Average Annual Operating Income”).

If the performance period is less than three years due to a Change in Control, the Committee shall calculate the ROI and Operating Income for the Measurement Period in which the Change in Control occurs up to the date immediately preceding the date of the Change in Control, with any adjustments necessary to account for the shorter period (including possible measurements of fractional year performance).

The Committee may, in the exercise of its discretion in good faith and in a manner consistent with the purposes of this Agreement, make such adjustments in calculating ROI and Operating Income of the Company (or any of its elements) as it deems necessary or appropriate to account for extraordinary, unusual or non-recurring events affecting the Company. Without limiting the foregoing, the Committee may make appropriate adjustments to ROI and Operating Income (or any of its elements) to reflect a merger, acquisition, disposition, spin-off, bankruptcy or liquidation, material impairment or restructuring charge, gain or loss on sale of non-operating assets, income or loss from discontinued operations, income or expenses related to the adoption or change of accounting principles, income or expenses related to material litigation and disputes, and any other extraordinary, unusual or non-recurring items affecting the Company deemed to be adjustments by the Committee.

Earned Performance Units

The Performance Units subject to the Performance Measure shall become earned performance units (the “Earned Performance Units”), as determined pursuant to the methodologies set forth below:

Earned Performance Units

ROI: The number of Earned Performance Units with respect to ROI (50% of the Performance Measure) is determined as follows:

- If the Company does not recognize any revenue for Big LNG during the Performance Period, then based on the Company’s Average Annual ROI during the Performance Period, determine the percentage of Earned Performance Units (the “Non-LNG Earned Percentage”) as follows:

	<u>Non-LNG Earned Percentage</u>	<u>Average Annual ROI</u>
Maximum	200%	[MAXIMUM]%
Target	100%	[TARGET]%
Minimum	50%	[MINIMUM]%



“Big LNG” shall mean any liquefied natural gas (“LNG”) projects that are greater than five million tonnes per annum (“MTPA”)

If, however, the Company recognizes revenue for Big LNG during the Performance Period, then the Maximum, Target, and Minimum Average Annual ROI shall be adjusted as follows:

- Multiply the total revenue from Big LNG for each year of the Performance Period by [MARGIN FACTOR]% to determine the adjustment amount for each year of the Performance Period (the “Adjustment Amounts”),
- Add the respective Adjustment Amounts for each year of the Performance Period to the Operating Income forecasted for each year of the Performance Period (previously disclosed to the Compensation Committee as an input for the target Average Annual ROI), and adjust the target Average Annual ROI accordingly (using the other inputs for calculation of target Average Annual ROI as previously disclosed to the Compensation Committee).

Next, determine the percentage of Earned Performance Units (the “LNG Earned Percentage”) as follows:

LNG Earned Percentage Average Annual ROI

Maximum	200%	As adjusted pursuant to steps above
Target	100%	As adjusted pursuant to steps above
Minimum	50%	As adjusted pursuant to steps above

With respect to performance levels that fall between these percentiles, the Non-LNG Earned Percentage or the LNG Earned Percentage, as the case may be, will be interpolated on a straight-line basis. In no event will the Non-LNG Earned Percentage or the LNG Earned Percentage exceed 200%.

- b. If the Non-LNG Earned Percentage applies, determine the number of Earned Performance Units under the ROI metric as follows:

Non-LNG Earned Percentage *multiplied by* [(Number of Performance Units granted in award) *multiplied by* (50%)]

If, however, the LNG Earned Percentage applies, determine the number of Earned Performance Units under the ROI metric as follows:

LNG Earned Percentage *multiplied by* [(Number of Performance Units granted in award) *multiplied by* (50%)]

Operating Income: The number of Earned Performance Units with respect to Operating Income (50% of the Performance Measure) is determined as follows:

- a. If the Company does not recognize any revenue for Big LNG during the Performance Period, based on the Company's Average Annual Operating Income during the Performance Period, determine the percentage of Earned Performance Units (the "Non-LNG Earned Percentage") as follows:

Non-LNG Earned Percentage Average Annual Operating Income

Maximum	200%	[\$[MAXIMUM]
Target	100%	[\$[TARGET]
Minimum	50%	[\$[MINIMUM]

If, however, the Company recognizes revenue for Big LNG during the Performance Period, then the Maximum, Target, and Minimum Average Annual Operating Income shall be adjusted as follows:

- Multiply the total revenue from Big LNG for each year of the Performance Period by [MARGIN FACTOR]% to determine the adjustment amount for each year of the Performance Period (the "Adjustment Amounts"),
- Add the respective Adjustment Amounts for each year of the Performance Period to the Operating Income amounts noted above, under sub-part a, to determine the new Maximum, Target, and Minimum Average Annual Operating Income figures.

Next, determine the percentage of Earned Performance Units (the "LNG Earned Percentage") as follows:

LNG Earned Percentage Average Annual Operating Income

Maximum	200%	As adjusted pursuant to steps above
Target	100%	As adjusted pursuant to steps above
Minimum	50%	As adjusted pursuant to steps above

With respect to performance levels that fall between these percentiles, the Non-LNG Earned Percentage or the LNG Earned Percentage, as the case may be, will be interpolated on a straight-line basis. In no event will the Non-LNG Earned Percentage or the LNG Earned Percentage exceed 200%.

- b. If the Non-LNG Earned Percentage applies, determine the number of Earned Performance Units under the Operating Income metric as follows:
-

Non-LNG Earned Percentage *multiplied by* [(Number of Performance Units granted in award) *multiplied by* (50%)]

If, however, the LNG Earned Percentage Applies, determine the number of Earned Performance Units under the Operating Income metric as follows:

LNG Earned Percentage *multiplied by* [(Number of Performance Units granted in award) *multiplied by* (50%)]

Total Shareholder Return (“TSR”) Modifier

The final number of shares earned will equal the product of (1) the Earned Performance Units multiplied by (2) the “Comparative TSR Modifier”, determined in accordance with the table below.

Intermediate values between threshold and target and between target and max levels of Comparative TSR will be determined by straight-line interpolation.

Comparative TSR Modifier

	Comparative TSR Achieved	Comparative TSR Modifier*
Threshold	$x \leq 25\text{th percentile}$	0.8
Target	50th percentile	1.0
Max	$x \geq 75\text{th percentile}$	1.2

* In the event Absolute TSR for the applicable Performance Period is a negative percentage, no upward adjustment will be made on account of the Comparative TSR achieved (i.e., the Comparative TSR Modifier will be deemed to be no greater than 1.0), even if the Comparative TSR achieved over the same Performance Period would have otherwise provided for an upward adjustment.

All calculations and determinations shall be made by the Committee in its reasonable discretion. Actual percentile performance will be rounded to the nearest whole percentage point. The maximum potential number of shares earned is equal to 240% of the target number of Performance Share Units granted.

Definitions

- “**Comparative TSR**” shall mean, on a percentile basis, the Absolute TSR of the Company relative to the Absolute TSR of the component companies of the Comparator Group set forth below, in each case measured over the applicable Performance Period, as reasonably determined by the Committee.
- “**Absolute TSR**” shall mean, on a percentage basis, with respect to the Company or any component company of the Comparator Group set forth below, the price appreciation of such entity’s common stock plus the value of reinvested dividends, calculated using the average closing price for the 20 consecutive trading days ending immediately prior to the first day of the

relevant period and the 20 consecutive trading days ending and including the last day of the relevant period, as reasonably determined by the Committee.

TSR Comparator Group*

All constituent companies of the Comparator Group as of the beginning of the Performance Period:

Air Products and Chemicals, Inc.	Franklin Electric Co., Inc.
Baker Hughes Company	Harsco Corporation
Barnes Group Inc.	IDEX Corporation
ChampionX	ITT Inc.
Chenier Energy, Inc.	New Fortress Energy LLC
CIMC Enric Holdings Limited	Nikkiso
CNH Industrial N.V.	Plug Power Inc.
EnPro Industries, Inc.	SPX Corporation
ESCO Technologies, Inc.	Worthington Industries, Inc.
Exterran Corporation	

* Comparator Group Adjustments:

- a) A Comparator Group company acquired by another company or that is delisted on all major stock exchanges shall be removed from the Comparator Group for the entire Performance Period as of the closing date of the acquisition or the effective date of delisting, as applicable.
 - b) A Comparator Group company that acquires another company shall remain in the Comparator Group for the Performance Period.
 - c) A Comparator Group company that files for bankruptcy, liquidation or reorganization during the Performance Period shall remain in the Comparator Group positioned below the lowest performing non-bankrupt Comparator Group company in reverse chronological order by bankruptcy date. This re-ranking would occur continually through the Performance Period.
 - d) A Comparator Group company that moves out of its applicable stock index shall remain in the Comparator Group unless one of the above occurrences applies.
 - e) All determinations with respect to the Comparator Group shall be made by the Committee in its reasonable discretion, including any removal of a component company from the Comparator Group and the relative ranking of the component companies in the Comparator Group, whether in the case of the scenarios described in clauses (a) through (d) of these guidelines or any other corporate transaction or scenario that the Committee deems appropriate to consider.
-

**CHART INDUSTRIES, INC.
2017 OMNIBUS EQUITY PLAN
RESTRICTED SHARE UNIT AGREEMENT**

THIS RESTRICTED SHARE UNIT AGREEMENT (the “Agreement”), is entered into as of this [[grantdatewords]] (the “Grant Date”), by and between Chart Industries, Inc., a Delaware corporation (the “Company”), and [[FIRSTNAME]] [[LASTNAME]] (the “Grantee”).

WITNESSETH:

WHEREAS, the Compensation Committee of the Board of Directors of the Company (the “Committee”) administers the Chart Industries, Inc. 2017 Omnibus Equity Plan (the “Plan”); and

WHEREAS, the Committee desires to provide the Grantee with Restricted Share Units under the Plan upon the terms and conditions set forth in this Agreement.

NOW, THEREFORE, the Company and the Grantee agree as follows:

1. Definitions. Unless the context otherwise indicates, the following words used herein shall have the following meanings wherever used in this Agreement:

- (a) “Cause” means, with respect to the Grantee, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Grantee. If the Grantee has not entered into any employment, severance, or change in control agreement with a definition of Cause, then “Cause” means (i) the Grantee’s willful failure to perform duties which, if curable, is not cured promptly, or in any event within ten (10) days, following the first written notice of such failure from the Company, (ii) the Grantee’s commission of, or plea of guilty or no contest to a (x) felony or (y) crime involving moral turpitude, (iii) willful malfeasance or misconduct by the Grantee which is demonstrably injurious to the Company or its Subsidiaries or Affiliates, (iv) material breach by the Grantee of any non-competition, non-solicitation or confidentiality covenants, (v) commission by the Grantee of any act of gross negligence, corporate waste, disloyalty or unfaithfulness to the Company which adversely affects the business of the Company or its Subsidiaries or Affiliates, or (vi) any other act or course of conduct by the Grantee which will demonstrably have a material adverse effect on the Company, a Subsidiary or Affiliate’s business.
 - (b) “Disability” or variations thereof means, with respect to the Grantee, a medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months which: (i) renders the Grantee unable to engage in substantial gainful activity or (ii) results in the Grantee receiving income replacement benefits for at least three months under an accident and health plan sponsored by the Grantee’s employer.
-

Notwithstanding the foregoing, a Grantee will not be considered “Disabled” with respect to this Agreement unless his or her disability satisfies the requirements set forth in Section 409A of the Code.

- (c) “Good Reason” means, with respect to the Grantee, the meaning ascribed to such term in any employment, severance, or change in control agreement entered into by the Grantee. If the Grantee has not entered into any employment, severance, or change in control agreement with a definition of Good Reason, then “Good Reason” means without the Grantee’s consent, (i) a material diminution in the Grantee’s authority, position or duties, or a material adverse change in reporting lines, (ii) Grantee’s principal place of employment with the Company or Post-CIC Entity is relocated a material distance (which for this purpose shall be deemed to be more than 50 miles) from such Grantee’s principal place of employment immediately prior to the Change in Control, (iii) any reduction in the Grantee’s base salary and (excluding any general salary reduction affecting similarly situated employees of the Company as a result of a material adverse change in the Company’s prospects or business), or (iv) the Grantee is excluded, following a Change in Control (other than through Grantee’s voluntary action(s)), from full participation in any benefit plan or arrangement maintained for similarly situated employees of the Company or Post-CIC Entity, and such exclusion materially reduces the benefits that otherwise would have been available to the Grantee, in each case which is not cured within thirty (30) days following the Company’s receipt of written notice from the Grantee describing the event constituting Good Reason.
- (d) “Retirement” or variations thereof means, with respect to the Grantee, a voluntary termination of Employment with the Company, its Subsidiaries and its Affiliates, either (i) after attaining age 60 and completing 10 years of service with such entities or (ii) after attaining age 65 and completing 5 years of service with such entities.

Notwithstanding this Section, and unless otherwise specified in the Agreement, capitalized terms shall have the meanings attributed to them under the Plan.

2. Grant of Restricted Share Units. As of the Grant Date, the Company grants to the Grantee, upon the terms and conditions set forth in this Agreement, ([[SHARESGRANTED]]) Restricted Share Units (the “RSUs”). The Restricted Share Units are granted in accordance with, and subject to, all the terms, conditions and restrictions of the Plan, which is hereby incorporated by reference in its entirety. The RSUs give the Grantee the right to receive one (1) Share for each RSU subject to the satisfaction of the vesting requirements set forth in this Agreement. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern, except with respect to Section 4(d) of this Agreement. The Grantee irrevocably agrees to, and accepts, the terms, conditions and restrictions of the Plan and this Agreement on his or her own behalf and on behalf of any beneficiaries, heirs, legatees, successors and assigns.

3. Restrictions on Transfer of Restricted Share Units. The Grantee and his or her beneficiaries, heirs, legatees, successors and assigns cannot sell, transfer, assign, pledge, hypothecate or otherwise directly or indirectly dispose of the Restricted Share Units (whether with or without consideration and whether voluntarily or involuntarily or by operation of law) or any interest therein.

4. Restriction Period.

- (a) Service-Based. Subject to the Grantee's continued Employment with the Company or its Affiliates as of such dates (except as otherwise provided herein with respect to death, Disability, Retirement or a Change in Control), the RSUs, together with any dividend equivalents credited pursuant to Section 7(b) below, shall Vest with respect to thirty-three and one-third percent (33 1/3%) of the Shares covered by the Award on each of the first (the "First Vesting Date"), second (the "Second Vesting Date"), and third (the "Third Vesting Date") anniversaries of the Grant Date (each, a "Vesting Date").
- (b) Retirement. If the Grantee's Employment terminates as a result of Retirement, the vesting provisions set forth in Sections 4(a) and 24 of this Agreement shall continue to apply and the Participant will have continued vesting of unvested RSUs that would have otherwise vested in the year following the year in which the Participant retires. The remaining unvested RSUs are forfeited.
- (c) Death or Disability. If the Grantee dies or the Grantee becomes Disabled, the RSUs together with any dividend equivalents credited pursuant to Section 7(b) below, shall, to the extent not then Vested and not previously forfeited, immediately become fully Vested as of the date of the Grantee's death or Disability.
- (d). Change in Control.
 - (i) Company Remains Surviving Entity or Awards Assumed by Successor.
 - (A) Upon the occurrence of a Change in Control in which either (i) the Company remains the surviving entity or (ii) the Company is not the surviving entity, but the RSUs are Assumed (as defined in Section 4(d)(i)(C) below) by the entity (or any successor or parent thereof) that effects such change in control (the "Post-CIC Entity"), any RSU granted prior to the Change in Control shall continue to vest in accordance with the terms of this Agreement unless, during the two-year period commencing on the date of the Change in Control:
 - (1) the Grantee's employment or service is involuntarily terminated by the Company or the Post-CIC Entity, as applicable, for reasons other than for Cause; or

- (2) the Grantee Terminates Grantee's employment or service for Good Reason.
- (B) If a Grantee's employment or service is terminated as described in Section 4(d)(i)(A)(1) or (2) above ("Protected Termination"), any restrictions that apply to the RSUs shall lapse; provided, that if Grantee intends to incur a Protected Termination of Grantee's employment or service for Good Reason, Grantee must:
- (1) provide the Company with a written notice of his or her intent to incur a Protected Termination of employment or service for Good Reason within sixty (60) days after the Grantee becomes aware of the circumstances giving rise to Good Reason; and
 - (2) allow the Company thirty (30) days to remedy such circumstances to the extent curable.
- (C) For purposes of this Section 4, an Award shall be considered assumed by the Post-CIC Entity ("Assumed") if all of the following conditions are met:
- (1) RSUs are converted into replacement awards covering a number of Shares of the Post-CIC Entity, as determined in a manner substantially similar to how the same number of Shares would be treated in the Change in Control transaction; provided that, to the extent that any portion of the consideration received by holders of Shares in the Change in Control transaction is not in the form of the common stock of the Post-CIC Entity, the number of shares covered by the replacement awards shall be based on the average of the high and low selling prices of the common stock of such Post-CIC Entity on the established stock exchange on the trading day immediately preceding the date of the Change in Control;
 - (2) the replacement awards contain provisions for scheduled vesting and treatment on Protected Termination of employment (including the definitions of Cause and Good Reason, if applicable) that are no less favorable to the Grantee than this Agreement, and all other terms of the replacement awards (other than the security and number of shares represented by the replacement awards) are substantially similar to, or more favorable to the Grantee than, the terms of this Agreement; and
 - (3) the security represented by the replacement awards, if any, is of a class that is publicly held and widely traded on an established stock exchange.

- (ii) Awards Not Assumed by Successor. Upon the occurrence of a Change in Control in which the Company is not the surviving Company, if this Agreement is not Assumed by the Post-CIC Entity, Grantee shall receive the RSUs that Grantee would have received in the Change in Control transaction had Grantee been, immediately prior to such transaction, a holder of the number of Shares equal to the number of RSUs, payable at the same time as consideration is paid to the holders of Shares in connection with the Change in Control, provided such payments are made no later than the fifth anniversary of the Change in Control.

5. Forfeiture. If the Committee determines in its sole and exclusive discretion that the Grantee's Employment with the Company, its Subsidiaries and Affiliates has terminated prior to the Vesting Dates for reasons other than death, Disability or Retirement or prior to the occurrence of a Change in Control in Section 4(d) above, the Grantee will forfeit any unvested RSUs, together with any dividend equivalents credited pursuant to Section 7(b) below, and any right to receive Shares under this Agreement with respect to such unvested RSUs and the Grantee will have no further interests under this Agreement.

6. Payment and Issuance of Common Shares. The Company will deliver to the Grantee (or his or her beneficiary or beneficiaries) the Vested Shares to which the Grantee is then entitled under this Agreement (including any Shares to which the Grantee is entitled as a result of dividend equivalents credited pursuant to Section 7(b) below) free and clear of any restrictions (except any applicable securities law restrictions) in a lump sum no later than 60 days following the first to occur of (a "Payment Date"): (a) an applicable Vesting Date under Section 4(a) above (which delivery schedule shall also apply to any Grantee who has Retired), (b) the Grantee's death, (c) the Grantee's Disability or (d) a Change in Control of the Company. Any otherwise Vested fractional Shares remaining as of a Payment Date shall be eliminated and cancelled.

7. Stockholder Rights.

- (a) Voting Rights. The Grantee will not have any Stockholder rights, including voting rights, with respect to the RSUs unless and until Shares have actually been issued to the Grantee.
- (b) Dividend Equivalents. If on any date prior to a Payment Date the Company shall pay any cash dividend on the Shares (with a record date after the Grant Date), then the Company shall credit on the books and records of the Company and the Grantee shall be entitled to receive, on the Payment Date, a number of Shares (rounded down to the next whole Share) equal to: (a) the aggregate number of RSUs credited to the Grantee as of the related dividend record date, multiplied by (b) the per Share amount of such cash dividend and divided by (c) the Fair Market Value of a Share on the dividend record date. In the case of any dividend declared on Shares (with a record date after the Grant Date) that is payable in the form of Shares, the Company shall credit to the Grantee's bookkeeping account and the

Grantee shall be granted, as of the Payment Date, a number of additional Shares (rounded down to the next whole Share) equal to: (x) the aggregate number of RSUs credited to the Grantee as of the related dividend record date, multiplied by (y) the number of Shares (including any fraction thereof) payable as a dividend on a Share.

8. Designation of Beneficiary. By properly executing and delivering a Designation of Beneficiary Form to the Company, the Grantee may designate an individual or individuals as his or her beneficiary or beneficiaries with respect to his or her interest under this Agreement. If the Grantee fails to properly designate a beneficiary, his or her interests under this Agreement will pass to the person or persons in the first of the following classes (who shall be deemed a beneficiary or beneficiaries) in which there are any survivors: (i) spouse at the time of death; (ii) issue, *per stirpes*; (iii) parents; and (iv) the estate. Except as the Company may determine in its sole and exclusive discretion, a properly completed Designation of Beneficiary Form shall be deemed to revoke all prior designations with respect to this Agreement (or, if the form so provides, the Plan) upon its receipt and approval by the designated representative of the Company.

9. Non-Transferability of Shares; Legends. Upon the acquisition of any Shares pursuant to this Agreement, if the Shares have not been registered under the Securities Act of 1933, as amended (the "Act"), they may not be sold, transferred or otherwise disposed of unless a registration statement under the Act with respect to the Shares has become effective or unless the Grantee establishes to the satisfaction of the Company that an exemption from such registration is available. The Shares will bear a legend stating the substance of such restrictions, as well as any other restrictions the Committee deems necessary or appropriate. In addition, the Grantee will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or this Agreement.

10. Effect of Corporate Reorganization or Other Changes Affecting Number or Kind of Shares. The provisions of this Agreement will be applicable to the RSUs, Shares or other securities, if any, which may be acquired by the Grantee related to the RSUs as a result of any dividend or other distribution (whether in the form of cash, Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, redesignation, reclassification, merger, consolidation, liquidation, split-up, reverse split, spin-off, combination, repurchase or exchange of Shares or other securities of the Company, issuance of warrants or other rights to purchase Shares or other securities of the Company or other similar corporate transaction or event. Subject to Section 3.4 of the Plan, the Committee may appropriately adjust the number and kind of RSUs or Shares described in this Agreement to reflect such a change.

11. Plan Administration. The Plan is administered by the Committee, which has sole and exclusive power and discretion to interpret, administer, implement and construe the Plan and this Agreement. All elections, notices and correspondence relating to the Plan should be directed to the Secretary at:

Chart Industries, Inc.
3055 Torrington Drive

Ball Ground, GA 30107
Attn.: Secretary

12. Notices. Any notice relating to this Agreement intended for the Grantee will be sent to the address appearing in the personnel records of the Company, its Affiliate or its Subsidiary. Either party may designate a different address in writing to the other. Any notice shall be deemed effective upon receipt by the addressee.

13. Termination of Agreement. This Agreement will terminate on the earliest of: (a) the last day of the Restriction Period under Section 4 above; (b) the date of termination of the Grantee's Employment for reasons referenced in Section 5 above; or (c) the date that Shares are delivered to the Grantee (or his or her beneficiary or beneficiaries). Any terms or conditions of this Agreement that the Company determines are reasonably necessary to effectuate its purposes will survive the termination of this Agreement. Without limiting the generality of the foregoing, the termination of this Agreement will not affect any obligation the Grantee may have, as determined by the Committee in its sole discretion, under any recoupment or "clawback" policy adopted by the Company.

14. Successors and Legal Representatives. This Agreement will bind and inure to the benefit of the Company and the Grantee and their respective heirs, beneficiaries, executors, administrators, estates, successors, assigns and legal representatives.

15. Integration. This Agreement, together with the Plan, constitutes the entire agreement between the Grantee and the Company with respect to the subject matter hereof. No terms of this Agreement shall be construed as amending the Plan in any respect. In the event of any conflict between the provisions of the Plan as in effect on the date hereof and the provisions of this Agreement, the provisions of the Plan shall govern, except with respect to Section 4(d) of this Agreement. This Agreement and the Plan may not be modified, amended, renewed or terminated, nor may any term, condition or breach of any term or condition be waived, except pursuant to the terms of the Plan or Section 23 below or by a writing signed by the person or persons sought to be bound by such modification, amendment, renewal, termination or waiver. Any waiver of any term, condition or breach thereof will not be a waiver of any other term or condition or of the same term or condition for the future, or of any subsequent breach.

16. Separability. In the event of the invalidity of any part or provision of this Agreement, such invalidity will not affect the enforceability of any other part or provision of this Agreement.

17. Incapacity. If the Committee determines that the Grantee is incompetent by reason of physical or mental disability or a person incapable of handling his or her property, the Committee may deal directly with or direct any payment to the guardian, legal representative or person having the care and custody of the incompetent or incapable person. The Committee may require proof of incompetence, incapacity or guardianship, as it may deem appropriate before making any payment. In the event of a payment, the Committee will have no obligation thereafter to monitor or follow the application of the amounts so paid. Payments pursuant to this paragraph shall completely discharge the Company with respect to such payments.

18. No Further Liability. The liability of the Company, its Affiliates and its Subsidiaries under this Agreement is limited to the obligations set forth herein and no terms or provisions of this Agreement shall be construed to impose any liability on the Company, its Affiliates, its Subsidiaries or the Committee in favor of any person or entity with respect to any loss, cost, tax or expense which the person or entity may incur in connection with or arising from any transaction related to this Agreement.

19. Section Headings. The section headings of this Agreement are for convenience and reference only and are not intended to define, extend or limit the contents of the sections.

20. No Right to Continued Employment. Nothing in this Agreement will be construed to confer upon the Grantee the right to continue in the employment or service of the Company, its Subsidiaries or Affiliates, or to be employed or serve in any particular position therewith, or affect any right which the Company, its Subsidiaries or an Affiliate may have to terminate the Grantee's employment or service with or without cause.

21. Governing Law. Except as may otherwise be provided in the Plan, this Agreement will be governed by, construed and enforced in accordance with the internal laws of the State of Delaware, without giving effect to its principles of conflict of laws.

22. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures were upon the same instrument.

23. Amendment. The Committee may waive any conditions or rights under, amend any terms of, or alter, suspend, discontinue, cancel or terminate this Agreement, but no such waiver, amendment, alteration, suspension, discontinuance, cancellation or termination shall materially adversely affect the rights of the Grantee hereunder without the consent of the Grantee; *provided, however*, that the Grantee's consent shall not be required to an amendment that is deemed necessary or appropriate by the Company to ensure (a) compliance with (or exemption from) Section 409A of the Code; (b) compliance with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 or any regulations promulgated thereunder (the "Dodd-Frank Act"); or (c) compliance with the terms of any recoupment or "clawback" policy the Company adopts to comply with the requirements of the Dodd-Frank Act or any regulations promulgated thereunder (even if the terms of that policy are broader than the requirements of the Dodd-Frank Act).

24. Withholding and Taxes. The Grantee shall be required to pay to the Company or any Affiliate and the Company or any Affiliate shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Award or payment of Shares thereunder, or any payment or transfer under or with respect to the Award or Shares and to take such other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes. Unless the Grantee makes other arrangements that are satisfactory to the Committee to cover the Company's or its Affiliate's withholding obligations, at any time that taxes are required to be withheld in connection with this Award, the Company shall withhold Shares from this Award with a Fair Market Value equal to the amount required to satisfy the minimum tax withholding obligations applicable to Grantee relating to this Award.

The delivery of Shares under this Agreement shall be accelerated to pay any Federal Insurance Contributions Act (“FICA”) tax imposed under Sections 3101, 3121(a), and Section 3121(v)(2) of the Code on compensation deferred under the Plan (the “FICA Amount”), as well as to pay the income tax at source on wages imposed under Section 3401 of the Code or the corresponding withholding provisions of applicable state, local, or foreign tax laws as a result of the payment of the FICA Amount, and to pay the additional income tax at source on wages attributable to the pyramiding Section 3401 of the Code wages and taxes. However, the total payment accelerated under this Section 24 acceleration provision must not exceed the number of whole Shares (rounded up for any fractional Shares) with a Fair Market Value equal to the aggregate of the FICA Amount and the income tax withholding related to such FICA Amount. The first delivery of Shares made with respect to the RSUs that occurs after the acceleration of Shares provided for in this paragraph shall be reduced by the number of Shares that were so accelerated.

25. Section 409A of the Code. This Agreement, together with the Plan, constitutes the entire agreement between the parties with respect to the subject matter hereof. The parties intend that this Agreement be, at all relevant times, compliant with (or exempt from) Section 409A of the Code and all other applicable laws, and, if the Grantee’s interests hereunder are subject to Section 409A of the Code, this Agreement shall be so interpreted and administered. In addition to the general amendment rights of the Company with respect to the Plan, the Company specifically retains the unilateral right (but not the obligation) to make, prospectively or retroactively, any amendment to this Agreement or any related document as it deems necessary or desirable to more fully address issues in connection with compliance with (or exemption from) Section 409A of the Code and other laws. In no event, however, shall this section or any other provisions of this Agreement be construed to require the Company to provide any grossup for the tax consequences of any provisions of, or payments under, this Agreement. Except as may be provided in another agreement to which the Company is bound, the Company and its Affiliates shall have no responsibility for tax or legal consequences to the Grantee (or the Grantee’s beneficiaries) resulting from the terms or operation of this Agreement or the Plan.

26. Six-Month Delay in Payment. Notwithstanding anything in this Agreement to the contrary, if at the time of the Grantee’s termination of Employment with the Company, the Grantee’s interests hereunder are subject to Section 409A of the Code and the Grantee is a “specified employee” as defined in Section 409A of the Code, and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of Employment is necessary in order to prevent the imposition of any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to the Grantee) until the date that is six (6) months following the Grantee’s termination of Employment with the Company (or the earliest date as is permitted under Section 409A of the Code).

By Grantee’s signature and the signature of the Company’s representative below, or by Grantee’s acceptance of this Award through the Company’s online acceptance procedure, this Agreement shall be deemed to have been executed and delivered by the parties hereto as of the Grant Date. Grantee hereby acknowledges that the treatment of the RSUs upon a Change in Control, as set forth in Section 4(d) hereof, differs from and supersedes the treatment set forth in Section 12.2 of the Plan.

Grantee Chart Industries, Inc.

[[SIGNATURE]] By: [[SIGNATURE]]

Print Name: [[FIRSTNAME]] [[LASTNAME]] Its: [[TITLE]]

Date: [[SIGNATURE_DATE]] Date: [[SIGNATURE_DATE]]

**SUBSIDIARIES OF THE COMPANY
AND JURISDICTION OF INCORPORATION OR ORGANIZATION**

BlueInGreen, LLC	Arkansas
Chart Asia Investment Company Limited	Hong Kong
Chart Asia, Inc.	Delaware
Chart Australia Pty Ltd	Australia
Chart Cryogenic Distribution Equipment (Changzhou) Company Limited*	China
Chart Cryogenic Engineering Systems (Changzhou) Co., Ltd.	China
Chart D&S India Private Limited	India
Chart Energy & Chemicals, Inc.	Delaware
Chart Ferox, a.s.	Czech Republic
Chart Germany GmbH	Germany
Chart Inc.	Delaware
Chart Industries (Gibraltar) Limited	Gibraltar
Chart Industries Luxembourg S.à r.l.	Luxembourg
Chart Industries Limited	United Kingdom
Chart Industries (Malaysia) Sdn. Bhd.	Malaysia
Chart International Holdings, Inc.	Delaware
Chart International, Inc.	Delaware
Chart Latin America S.A.S.	Colombia
Chart Lifecycle, Inc.	Delaware
Chart S.à r.l & Co. KG	Germany
Cofimco Fan (Changshu) Co., Ltd.	China
Cofimco Industrial Fans India Private Ltd.****	India
Cofimco International (Shanghai) Trading Co, Inc.	China
Cofimco S.r.l.	Italy
Cryo Diffusion S.A.S.	France
Cryo-Lease, LLC	Florida
E&C FinFan, Inc.	Delaware
Fema S.r.l.	Italy
Flow Instruments & Engineering GmbH	Germany
GOFA Gocher Fahrzeugbau GmbH	Germany
GTC of Clarksville, LLC	Delaware
Hetsco, Inc.	Delaware
Hetsco Holdings, Inc.	Delaware
Hudson-Cofimco Limited	Hong Kong
Hudson Heat Transfer International, Inc.	Panama
Hudson Parent Corporation	Delaware
Hudson Products Corporation	Texas
Hudson Products de Mexico, S.A. de C.V.*	Mexico
Hudson Products Holdings Inc.	Delaware
Hudson Products Holdings Cooperatief UA	Netherlands
Hudson Products Middle East LLC	Delaware
Hudson Products S.r.l.	Italy
Industrie Meccaniche di Bagnolo S.r.l.	Italy
MVE CryoSystems Japan Co., Ltd.	Japan
Nanjing New Metallurgy Electric Engineering Co., Ltd.**	China
Prefontaine Properties, Inc.	New Hampshire
PT. Thermax***	Indonesia
RCHPH Holdings, Inc.	Delaware
Skaff, LLC	Delaware

Skaff Cryogenics, Inc.
Sustainable Energy Solutions, Inc.
Thermax, Inc.
VCT Vogel GmbH
VRV Asia Pacific Private Limited
VRV Holdings S.r.l.
VRV S.r.l.
VRV Services S.r.l.

New Hampshire
Utah
Massachusetts
Germany
India
Italy
Italy
Italy

*50% of equity interests owned indirectly by the Company.
**80% of equity interests owned indirectly by the Company.
***95% of equity interests owned indirectly by the Company.
****99.8% of equity interests owned indirectly by the Company.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-232049 on Form S-3 and Registration Statement Nos. 333-162740, 333-183031, and 333-219509 on Form S-8 of our reports dated March 1, 2021, relating to the financial statements of Chart Industries, Inc., and the effectiveness of Chart Industries, Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K of Chart Industries, Inc. for the year ended December 31, 2020.

/s/ Deloitte & Touche LLP

Atlanta, Georgia

March 1, 2021

Consent of Independent Registered Public Accounting Firm

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

1. Registration Statement (Form S-8, File No. 333-162740) pertaining to the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan,
2. Registration Statement (Form S-8, File No. 333-138682) pertaining to the Amended and Restated Chart Industries, Inc. 2005 Stock Incentive Plan,
3. Registration Statement (Form S-8, File No. 333-183031) pertaining to the Chart Industries, Inc. Amended and Restated 2009 Omnibus Equity Plan,
4. Registration Statement (Form S-8, File No. 333-219509) pertaining to the Chart Industries, Inc. 2017 Omnibus Equity Plan, and
5. Registration Statement (Form S-3, File No. 333-232049) of Chart Industries, Inc.

of our reports dated February 22, 2019, except for Notes 3, 4 and 5, as to which the date is March 1, 2021, with respect to the consolidated financial statements and schedule of Chart Industries, Inc. and Subsidiaries included in this Annual Report (Form 10-K) of Chart Industries, Inc. for the year ended December 31, 2018.

/s/ ERNST & YOUNG LLP

Atlanta, Georgia
March 1, 2021

CERTIFICATION

I, Jillian C. Evanko, certify that:

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

Date: March 1, 2021

/s/ Jillian C. Evanko

Jillian C. Evanko

Chief Executive Officer, President and Chief Financial Officer

**Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of Chart Industries, Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

- a. The Annual Report on Form 10-K for the period ended December 31, 2020 of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- b. The information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company as of, and for, the periods presented in the Form 10-K.

Dated: March 1, 2021

/s/ Jillian C. Evanko

Jillian C. Evanko

Chief Executive Officer, President and Chief Financial Officer

This written statement accompanies the Form 10-K pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.