TRANE TECHNOLOGIES plc

Directors' Report and Financial Statements
Financial Year Ended 31 December 2020

TRANE TECHNOLOGIES PLC

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DIRECTORS AND OTHER INFORMATION

Board of Directors at 7 April 2021	Kirk E. Arnold Ann C. Berzin John Bruton Jared L. Cohon Gary D. Forsee Linda P. Hudson Michael W. Lamach Myles P. Lee April Miller Boise Karen B. Peetz John P. Surma Richard J. Swift Tony L. White
Company Secretaries	Evan M. Turtz (Company Secretary) Sara Walden Brown (Assistant Secretary) Computershare Inc. (Assistant Secretary)
Registered Office	170-175 Lakeview Drive Airside Business Park Swords Co. Dublin
Registered Number	469272
Solicitor	Arthur Cox Ten Earlsfort Terrace Dublin 2
Auditors	PricewaterhouseCoopers One Spencer Dock North Wall Quay Dublin 1
Principal Bankers	JP Morgan Chase Bank, 125 London Wall London EC2Y 5AJ England

Directors' report for the year ended 31 December 2020.

The directors present their report and the Financial Statements and related Notes of Trane Technologies plc for the financial year ended 31 December 2020.

Principal Activities

Trane Technologies plc (Plc, Parent Company or Company), a public limited company, listed on the New York Stock Exchange, incorporated in Ireland in 2009, and its consolidated subsidiaries (collectively, we, our, the Group) is a global climate innovator that brings efficient and sustainable climate solutions to buildings, homes and transportation driven by strategic brands Trane® and Thermo King® and an environmentally responsible portfolio of products and services. We generate turnover and cash primarily through the design, manufacture, sale and service of a diverse portfolio of climate control products and services for Heating, Ventilation and Air Conditioning (HVAC) and transport solutions.

To achieve our mission of being a world leader in creating comfortable, sustainable and efficient environments, we continue to focus on growth by increasing our recurring turnover stream from parts, service, controls, used equipment and rentals; and to continuously improve efficiencies and capabilities of our operations and products and services for our customers. We also continue to focus on operational excellence strategies as a central theme to improving our earnings and cash flow.

Separation of Industrial Segment Businesses

On 29 February 2020 (Distribution Date), we completed our Reverse Morris Trust transaction (the Transaction) with Gardner Denver Holdings, Inc. (Gardner Denver, which changed its name to Ingersoll Rand Inc. after the Transaction) whereby we distributed Ingersoll-Rand U.S. HoldCo, Inc., which contained our former Industrial segment (Ingersoll Rand Industrial), through a pro rata distribution (the Distribution) to our shareholders of record as of 24 February 2020. Ingersoll Rand Industrial then merged into a wholly-owned subsidiary of Gardner Denver. Upon close of the Transaction, our existing shareholders received approximately 50.1% of the shares of Gardner Denver common stock on a fully-diluted basis and Gardner Denver stockholders retained approximately 49.9% of the shares of Gardner Denver on a fully diluted basis. As a result, our shareholders received .8824 shares of Gardner Denver common stock with respect to each share owned as of 24 February 2020. In connection with the Transaction, Ingersoll-Rand Services Company, an affiliate of Ingersoll Rand Industrial, borrowed an aggregate principal amount of $1.9 billion under a senior secured first lien term loan facility (Term Loan), the proceeds of which were used to make a special cash payment of $1.9 billion to a subsidiary of ours. The obligations under the Term Loan were retained by Ingersoll-Rand Services Company, which following the Transaction is a wholly-owned subsidiary of Gardner Denver.

In connection with the Transaction, we entered into several agreements covering supply, administrative and tax matters to provide or obtain services on a transitional basis for varying periods after the Distribution Date. The agreements cover services such as manufacturing, information technology, human resources and finance. Income and expenses under these agreements were not material. In accordance with several customary transaction-related agreements between us and Gardner Denver, the parties are in a process to determine final adjustments to working capital, cash and indebtedness amounts as of the Distribution Date, as well as another process to determine funding levels related to pension plans, non-qualified deferred compensation plans and retiree health benefits. As of 31 December 2020, both are ongoing in accordance with the transaction-related agreements. Upon finalization of these agreements, any adjustments will be recognized within *Profit and loss account reserve*.

Reportable Segments

Prior to the separation of our Industrial segment on 29 February 2020, we announced a new organizational model and business segment structure designed to enhance our regional go-to-market capabilities, aligning the structure with our strategy and increased focus on climate innovation. Under the revised structure, we created three new regional operating segments from the former climate segment, which also serve as our reportable segments.

- Our Americas segment innovates for customers in the North America and Latin America regions. The Americas segment encompasses commercial heating and cooling systems, building controls, and energy services and solutions; residential heating and cooling; and transport refrigeration systems and solutions. This segment had 2020 turnover of $9.7 billion.
- Our EMEA segment innovates for customers in the Europe, Middle East and Africa region. The EMEA segment encompasses heating and cooling systems, services and solutions for commercial buildings, and transport refrigeration systems and solutions. This segment had 2020 turnover of $1.6 billion.
- Our Asia Pacific segment innovates for customers throughout the Asia Pacific region. The Asia Pacific segment encompasses heating and cooling systems, services and solutions for commercial buildings and transport refrigeration systems and solutions. This segment had 2020 turnover of $1.1 billion.

This model is designed to create deep customer focus and relevance in markets around the world. Each segment reports through separate management teams and regularly reviews their operating results with the Chief Executive Officer, the Company's Chief Operating Decision Maker (CODM) determined in accordance with applicable accounting guidance. All prior period comparative segment information has been recast to reflect the current reportable segments.

Products and Services

Our principal products and services include the following:

Aftermarket and OEM parts and supplies	Hybrid-powered trailer refrigeration
Air conditioners	Ice energy storage solutions
Air exchangers	Indoor air quality assessments and related products for HVAC and Transport solutions
Air handlers	Industrial refrigeration
Airside and terminal devices	Installation contracting
Auxiliary power units	Large commercial unitary
Building management systems	Light commercial unitary
Bus and rail HVAC systems	Motor replacements
Chillers	Multi-pipe HVAC systems
Coils and condensers	Package heating and cooling systems
Container refrigeration systems and gensets	Performance contracting
Control systems	Rail refrigeration systems
Cryogenic refrigeration systems	Refrigerant reclamation
Diesel-powered refrigeration systems	Repair and maintenance services
Ductless systems	Rental services
Electric-powered trailer refrigeration systems	Self-powered truck refrigeration systems
Electric-powered truck refrigeration systems	Service agreements
Energy management services	Temporary heating and cooling systems
Facility management services	Thermostats/controls
Furnaces	Trailer refrigeration systems
Geothermal systems	Transport heater products
Heat pumps	Unitary systems (light and large)
Home automation	Variable Refrigerant Flow
Humidifiers	Vehicle-powered truck refrigeration systems
Hybrid and non-diesel transport refrigeration solutions	Water source heat pumps

These products are sold primarily under our name and under our tradenames including Trane®, Thermo King® and American Standard®.

Competitive Conditions

Our products and services are sold in highly competitive markets throughout the world. Due to the diversity of these products and services and the variety of markets served, we encounter a wide variety of competitors that vary by product line and services. They include well-established regional or specialized competitors, as well as larger U.S. and non-U.S. corporations or divisions of larger companies.

The principal methods of competition in these markets relate to price, quality, delivery, service and support, technology and innovation. We believe that we are one of the leading manufacturers in the world of HVAC systems and services and transport temperature control products.

Distribution

Our products are distributed by a number of methods, which we believe are appropriate to the type of product. U.S. sales are made through branch sales offices, distributors and dealers across the country. Non-U.S. sales are made through numerous subsidiary sales and service companies with a supporting chain of distributors throughout the world.

Operations by Geographic Area

Approximately 28% of our turnover in 2020 was derived outside the U.S. and we sold products in more than 100 countries. Therefore, the attendant risks of manufacturing or selling in a particular country, such as currency devaluation, nationalization and establishment of common markets, may have an adverse impact on our non-U.S. operations.

Customers

We have no customer that accounted for more than 10% of our consolidated turnover in 2020 and 2019. No material part of our business is dependent upon a single customer or a small group of customers; therefore, the loss of any one customer would not have a material adverse effect on our results of operations or cash flows.

Raw Materials

We manufacture many of the components included in our products, which requires us to employ a wide variety of commodities. Principal commodities, such as steel, copper and aluminum, are purchased from a large number of independent sources around the world, primarily within the region where the products are manufactured. We believe that available sources of supply will generally be sufficient for the foreseeable future. There have been no commodity shortages which have had a material adverse effect on our businesses.

Seasonality

Demand for certain of our products and services is influenced by weather conditions. For instance, sales in our commercial and residential HVAC businesses historically tend to be seasonally higher in the second and third quarters of the year because this represents spring and summer in the U.S. and other northern hemisphere markets, which are the peak seasons for sales of air conditioning systems and services. Therefore, results of any quarterly period may not be indicative of expected results for a full year and unusual weather patterns or events could negatively or positively affect certain segments of our business and impact overall results of operations.

Research and Development

We engage in research and development activities in an effort to introduce new products, enhance existing product effectiveness, improve ease of use and reliability as well as expand the various applications for which our products may be appropriate. We also continually evaluate developing technologies in areas that we believe will enhance our business for possible investment or acquisition. In addition, we have a strong focus on sustaining activities, which include costs incurred to reduce production costs, improve existing products, create custom solutions for customers and provide support to our manufacturing facilities.We anticipate that we will continue to make significant expenditures for research and development and sustaining activities as we look to maintain and improve our competitive position. For the years ended 31 December 2020 and 2019, we incurred approximately $165.0 million and $174.2 million, respectively, in research and development activities.

Patents and Licenses

Our intellectual property rights are important to our business and include numerous patents, trademarks, copyrights, trade secrets, proprietary technology, technical data, business processes, and other confidential information. Although in aggregate we consider our intellectual property rights to be valuable to our operations, we do not believe that our business is materially dependent on a single intellectual property right or any group of them. In our opinion, engineering, production skills and experience are more responsible for our market position than our intellectual property rights.

Backlog

Our approximate backlog of orders, believed to be firm, at 31 December, were as follows:

	2020 $m	2019 $m
Americas	1,788.0	1,592.4
EMEA	426.2	336.9
Asia Pacific	680.6	584.0
Total	2,894.8	2,513.3

These backlog figures are based on orders received and only include amounts associated with our equipment and contracting and installation performance obligations. A major portion of our products are built in advance of order and either shipped or assembled from stock. As a result, we expect to ship a majority of the 31 December 2020 backlog during 2021. However, orders for specialized machinery or specific customer application are submitted with extensive lead times and are often subject to revision and deferral, and to a lesser extent cancellation or termination. To the extent projects are delayed, the timing of our turnover could be affected.

Environmental Matters

We continue to be dedicated to environmental and sustainability programs to minimize the use of natural resources, and reduce the utilization and generation of hazardous materials from our manufacturing processes and to remediate identified environmental concerns. As to the latter, we are currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former manufacturing facilities.

We are sometimes a party to environmental lawsuits and claims and have received notices of potential violations of environmental laws and regulations from the Environmental Protection Agency and similar state authorities. We have also been identified as a potentially responsible party (PRP) for cleanup costs associated with off-site waste disposal at federal Superfund and state remediation sites. For all such sites, there are other PRPs and, in most instances, our involvement is minimal.

In estimating our liability, we have assumed that we will not bear the entire cost of remediation of any site to the exclusion of other PRPs who may be jointly and severally liable. The ability of other PRPs to participate has been taken into account, based on our understanding of the parties' financial condition and probable contributions on a per site basis. Additional lawsuits and claims involving environmental matters are likely to arise from time to time in the future.

For a further discussion of our potential environmental liabilities, see Note 31 to the Consolidated Financial Statements.

Asbestos-Related Matters

On 18 June 2020 (Petition Date), our indirect wholly-owned subsidiaries Aldrich Pump LLC (Aldrich) and Murray Boiler LLC (Murray) each filed a voluntary petition for reorganization under Chapter 11 of Title 11 of the United States Code (the Bankruptcy Code) in the United States Bankruptcy Court for the Western District of North Carolina in Charlotte (the Bankruptcy Court). As a result of the Chapter 11 filings, all asbestos-related lawsuits against Aldrich and Murray have been stayed due to the imposition of a statutory automatic stay applicable in Chapter 11 bankruptcy cases. Only Aldrich and Murray have filed for Chapter 11 relief. Neither Aldrich's wholly-owned subsidiary, 200 Park, Inc. (200 Park), Murray's wholly-owned subsidiary, ClimateLabs LLC (ClimateLabs), Trane Technologies plc nor its other subsidiaries (the Trane Companies) are part of the Chapter 11 filings.

The goal of these Chapter 11 filings is an efficient and permanent resolution of all current and future asbestos claims through court approval of a plan of reorganization, which would establish, in accordance with section 524(g) of the Bankruptcy Code, a trust to pay all asbestos claims. Such a resolution, if achieved, would likely include a channeling injunction to enjoin asbestos claims resolved in the Chapter 11 cases from being filed or pursued against us or our affiliates. The Chapter 11 cases remain pending as of 31 December 2020.

Prior to the Petition Date, certain of our wholly-owned subsidiaries and former companies were named as defendants in asbestos-related lawsuits in state and federal courts. In many of the lawsuits, a large number of other companies have also been named as defendants. The vast majority of those claims allege injury caused by exposure to asbestos contained in certain historical products, primarily pumps, boilers and railroad brake shoes. None of our existing or previously-owned businesses were a producer or manufacturer of asbestos.

For a further discussion of our contingent liabilities, see Note 31 to the Consolidated Financial Statements.

Human Capital Management

Our people and culture management are critical to achieving our operational, financial and strategic goals. Further information is available in our Environmental Social and Governance (ESG) report available on our website.

As of 31 December 2020, we employed approximately 35,000 people in nearly 60 countries including approximately 12,500 outside of the U.S. As of 31 December 2020, 25.3% of our global employees were women and 35.5% of our employees in the United States were racially and ethnically diverse. In 2020, 31.2% of our new hires globally were women and 47.9% of new hires in the United States were racially and ethnically diverse. Approximately 21.7% of leadership and management positions were held by women as of 31 December 2020.

Culture and Purpose

In 2020, as Trane Technologies, we refined and reaffirmed dimensions of our culture as a climate innovator dedicated to our purpose of *boldly challenging what's possible for a sustainable world*. We engaged thousands of employees in surveys and online focus groups to define the core Leadership Behaviors for all employees to live our new purpose.

Since its launch in 2006, our annual employee engagement survey has enabled employees to share their experiences and perceptions of our company. Employees provided ratings and written comments for continuous improvement. In 2020, 90% of our workforce participated in our annual engagement survey and our overall employee engagement score positions us well into the top quartile of all companies globally.

Diversity and Inclusion

Our commitment to Diversity and Inclusion is core to our purpose and our 2030 sustainability commitments. We are proud members of Paradigm for Parity (a coalition of more than 100 corporations who have committed to closing the gender gap in corporate leadership) and OneTen (a coalition dedicated to hiring one million Black Americans in the next ten years to achieve economic mobility). In addition, our CEO is a 2018 signatory to the CEO Action for Diversity and Inclusion pledge (the largest CEO-driven business commitment to advance diversity and inclusion within the workplace).

We offer company-sponsored forums to promote diversity and inclusion in the workplace including:

- Bridging Connections – a safe forum created to allow our employees to speak from the heart about a variety of topics without fear of retribution.
- Unity Squads – site-based committees of employees that foster diversity and inclusion by celebrating cultural heritage milestones and offering cross-cultural awareness programs, open to all employees.
- Black Leader Forum – a half day intensive session bringing together company leaders to learn, further a sense of community, and build upon our strategic intent to advance Black leaders.
- Employee Resources Groups (ERGs) – Trane Technologies sponsors eight ERGs (the Women's Employee Network, the Black Employee Network, the Veterans Employee Resource Group, the Asian Employee Resource Group, the Global Organization of Latinos, the LGBTA Employee Resource Group, the InterGenerational Employee Network, and Visibility). All ERGs are voluntary, open and inclusive organizations that offer employees a sense of belonging, networking and learning opportunities.

Learning and Development

We offer learning and career development opportunities that enhance our employees' skills and abilities and ensure contemporary technical and functional skills and competencies such as innovation, collaboration and leadership. Examples of these programs include:

- Team Leader Development Program – An eight-week experiential development program that engages, teaches and empowers front-line plant leaders to apply continuous improvement methods, make sound business decisions, solve problems, and serve as a coach of direct workers.
- Graduate Training Program (GTP) – A five-month development program designed to prepare university graduate engineers for a rewarding career in technical sales. The program prepares sales engineers to sell Trane's complex HVAC systems and energy services. The program, started in 1926, is recognized as the industry's most comprehensive training program and provides intensive technical, business, sales, and leadership training. GTP accelerates careers and provides the skills needed to help us lower the energy intensity of the world.
- Accelerated Development Program (ADP) – An early career rotational program focused on both functional and leadership development, designed to build a pipeline of strong talent for key roles in the organization. Participants rotate to multiple geographic locations and business units during the 2.5 year program, while experiencing diverse assignments, and receiving dedicated functional training and developmental experiences. Established in 1979, the ADP holds a rich history of developing early talent and spans six functions and four regions.
- Women's Leadership Program – An award-winning cohort program that enables high-potential women around the world to gain individual insights and skills through mentoring and peer networking, and to build their leadership competencies and business acumen through action-learning projects and exposure to senior leaders.
- Engaging Your Employees – Approximately 4,000 Trane managers have completed this program since its launch. During 2020, we delivered 14 virtual Engaging Your Employees workshops to approximately 311 managers globally.
- Professional development – We have numerous online learning courses in professional development skills as varied as working virtually, resiliency, Microsoft Teams, unconscious bias, effective communication, alert driving, sustainability, and strategic capability initiatives such as product management and other programs that support our strategy of being a world class lean enterprise.

- Compliance Training – Our Compliance Training curriculum covers key topics that are important to protect our Company, our people and our customers. Topics include certification in our Code of Conduct, Information Security, Understanding and Preventing Sexual Harassment and Human Trafficking Prevention. All salaried employees globally complete our annual compliance curriculum.

Employee Volunteerism

In 2020, due to the restrictions of the COVID-19 global pandemic many of our employees sought out virtual volunteering opportunities, and more than 15,000 of our people contributed more than 20,000 volunteer hours in support of building sustainable futures in our communities. Our support for those in need also included our own colleagues support for one another. Due to the impacts of the pandemic, we accelerated our employee fundraising efforts and employees donated $1.4 million to our Helping Hand Fund (our employee crisis relief program). These funds provided approximately 1,100 employees with emergency relief grants for themselves and their families. We also developed a new Global Volunteer Time program, providing all salaried employees a full work day (8 hours) per calendar year to volunteer with non-profit organizations. This program will be piloted for hourly employees at select locations around the world in 2021, with an expected full global implementation in 2022.

Health, Safety and Well-Being

Trane Technologies believes in supporting the total health and safety of our employees. It was even more critical in 2020, given COVID-19. Therefore, we expanded the support we offered, by:

- Providing 100% of our employees around the world access to at least one company-sponsored wellness activity.
- Accelerating the rollout of our global Employee Assistance Program (EAP). Each year, we expand our EAP to five to six countries. This year, we accelerated rollout of our global EAP to 25 remaining countries (final country pending Works Council approvals). Employees received frequent communications on resources, targeted to crisis concerns such as mental health, childcare, and education.
- Amending the U.S. medical plans to cover COVID-19 testing and telehealth visits at no cost to employees.
- Modifying our Short-Term Disability Plan to eliminate previous waiting period, by ensuring benefits started on first day of absence for COVID-related illness or required quarantine.
- Amending the defined contribution plans for U.S. employees to allow for COVID-19 related distributions and a delay for loan repayments without penalties.
- Providing back-up care and working parent resource enhancements in the U.S.
- Accelerating our "Future of Work" initiative to create revised Flex Time and Flex Place policies and resources that vary by type of role, continued work-from-home arrangements, and other approaches to ensuring productivity while being supportive to employee needs.

In 2020 we continued our multi-year, world class safety record with Lost-time Incident Rate of 0.07 and Recordable Rate of 0.79. In response to the pandemic, we quickly developed a pandemic response team that developed over 50 elements of standard work such as travel restrictions, active screenings, 100% requirement for face masks, etc. In our factories, we reconfigured over 5,000 work stations to meet the social distancing guidelines. We also completed over 30,000 observations of our service technicians and manufacturing employees to ensure all employees were following our COVID-19 protocols.

Competitive Pay and Benefits

Our compensation programs and policies are based on a strong connection to our strategy, to attract and retain a talented workforce and to meet the needs of employees globally. We are committed to competitive wages and benefits and equal pay for equal work, regardless of background. We have rigorous pay practices to ensure we compensate our employees fairly, equitably and competitively. In addition, our incentive compensation programs are tied to our 2030 Commitments. Beginning in 2021, management incentive compensation will include environmental sustainability and workforce diversity goals, in addition to financial goals.

Our proxy statement provides more detail on the competitive compensation programs we offer.

BUSINESS REVIEW

Organizational

Trane Technologies plc is a global climate innovator. We bring efficient and sustainable climate solutions to buildings, homes and transportation driven by strategic brands Trane® and Thermo King® and an environmentally responsible portfolio of products and services. Prior to the separation of our Industrial segment on 29 February 2020, we announced a new organizational model and business segment structure designed to enhance our regional go-to-market capabilities, aligning the structure with our strategy and increased focus on climate innovation. Under the revised structure, we created three new regional operating segments from the former climate segment, which also serve as our reportable segments.

- Our Americas segment innovates for customers in the North America and Latin America regions. The Americas segment encompasses commercial heating and cooling systems, building controls, and energy services and solutions; residential heating and cooling; and transport refrigeration systems and solutions.
- Our EMEA segment innovates for customers in the Europe, Middle East and Africa regions. The EMEA segment encompasses heating and cooling systems, services and solutions for commercial buildings, and transport refrigeration systems and solutions.
- Our Asia Pacific segment innovates for customers throughout the Asia Pacific region. The Asia Pacific segment encompasses heating and cooling systems, services and solutions for commercial buildings and transport refrigeration systems and solutions.

This model is designed to create deep customer focus and relevance in markets around the world. All prior period comparative segment information has been recast to reflect the current reportable segments.

Separation of Industrial Segment Business

On 29 February 2020 (Distribution Date), we completed our Reverse Morris Trust transaction (the Transaction) with Gardner Denver Holdings, Inc. (Gardner Denver, which changed its name to Ingersoll Rand Inc. after the Transaction) whereby we distributed Ingersoll-Rand U.S. HoldCo, Inc., which contained our former Industrial segment (Ingersoll Rand Industrial), through a pro rata distribution (the Distribution) to our shareholders of record as of 24 February 2020. Ingersoll Rand Industrial then merged into a wholly-owned subsidiary of Gardner Denver. Upon close of the Transaction, our existing shareholders received approximately 50.1% of the shares of Gardner Denver common stock on a fully-diluted basis and Gardner Denver stockholders retained approximately 49.9% of the shares of Gardner Denver on a fully diluted basis. As a result, our shareholders received .8824 shares of Gardner Denver common stock with respect to each share owned as of 24 February 2020. In connection with the Transaction, Ingersoll-Rand Services Company, an affiliate of Ingersoll Rand Industrial, borrowed an aggregate principal amount of $1.9 billion under a senior secured first lien term loan facility (Term Loan), the proceeds of which were used to make a special cash payment of $1.9 billion to a subsidiary of ours. The obligations under the Term Loan were retained by Ingersoll-Rand Services Company, which following the Transaction is a wholly-owned subsidiary of Gardner Denver.

In connection with the Transaction, we entered into several agreements covering supply, administrative and tax matters to provide or obtain services on a transitional basis for varying periods after the Distribution Date. The agreements cover services such as manufacturing, information technology, human resources and finance. Income and expenses under these agreements were not material. In accordance with several customary transaction-related agreements between us and Gardner Denver, the parties are in a process to determine final adjustments to working capital, cash and indebtedness amounts as of the Distribution Date, as well as another process to determine funding levels related to pension plans, non-qualified deferred compensation plans and retiree health benefits. As of 31 December 2020, both are ongoing in accordance with the transaction-related agreements. Upon finalization of these agreements, any adjustments will be recognized within *Profit and loss account reserve*.

Significant Events

COVID-19 Global Pandemic

In March 2020, the World Health Organization declared the outbreak of a respiratory disease caused by a newly discovered coronavirus, known now as COVID-19, as a global pandemic and recommended containment and mitigation measures worldwide. Beginning in the first quarter of 2020, many countries responded by implementing measures to combat the outbreak which impacted global business operations and resulted in our decision to temporarily close or limit our workforce to essential crews within many facilities throughout the world in order to ensure employee safety. In addition, our non-essential employees were instructed to work from home in compliance with global government stay-in-place protocols.

We have been adversely impacted by the COVID-19 global pandemic. Temporary facility closures beginning in the first quarter of 2020 disrupted results in the Asia Pacific region with impacts more widely felt throughout operations in the Americas and EMEA in the months thereafter. During the second quarter of 2020, we began to reopen facilities while maintaining appropriate health and safety precautions. However, the challenges in connection with the pandemic continued as we experienced lower volume which negatively impacted turnover, and certain supply chain delays. In response, we proactively initiated cost cutting actions in an effort to mitigate the impact of the pandemic on our business. This included reducing discretionary spending, restricting travel, delaying merit-based salary increases and implementing employee furloughs in certain markets.

We continue to navigate the new realities brought about by the COVID-19 global pandemic as well as any impact on our liquidity needs and ability to access capital markets. Despite these challenges, all production facilities remain open and we continue to sell, install and service our products. During the second half of 2020, we did not experience any major delays in our supply chain and continued to focus on health and safety precautions to protect our employees and customers. In addition, during the fourth quarter we completed several restorative actions including the reinstatement of annual merit increases and the execution of our balanced capital allocation strategy. Operationally, our financial reporting systems, internal control over financial reporting and disclosure controls and procedures continue to operate effectively despite a remote workforce. We will continue to monitor the ongoing situation as it evolves globally and will assess any potential impacts to our business and financial position.

The preparation of financial statements requires management to use judgments in making estimates and assumptions based on the relevant information available at the end of each period. These estimates and assumptions have a significant effect on reported amounts of assets and liabilities, turnover and expenses, as well as the disclosure of contingencies because they may arise from matters that are inherently uncertain. The financial statements reflect our best estimates as of 31 December 2020 (including as it relates to the actual and potential future impacts of the COVID-19 global pandemic) with respect to the recoverability of our assets, including our receivables and long-lived assets such as goodwill and intangibles. However, due to significant uncertainty surrounding the COVID-19 global pandemic, management's judgment regarding this could change in the future. In addition, while our results of operations, cash flows and financial condition could be negatively impacted, the extent of the impact cannot be estimated with certainty at this time

As part of the response to COVID-19 global pandemic, many countries implemented emergency economic relief plans as a way of minimizing the economic impact of this health crisis. In the United States, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted on 27 March 2020 providing numerous tax provisions and other stimulus measures. We are currently applying the CARES Act to our operations, which includes the deferral of employer social security payroll tax payments under the CARES Act through 1 January 2021, with 50 percent owed on 31 December 2021 and the other half owed on 31 December 2022.

Reorganization of Aldrich and Murray

On the Petition Date, Aldrich and Murray each filed a voluntary petition for reorganization under Chapter 11 of the Bankruptcy Code in the Bankruptcy Court. As a result of the Chapter 11 filings, all asbestos-related lawsuits against Aldrich and Murray have been stayed due to the imposition of a statutory automatic stay applicable in Chapter 11 bankruptcy cases. Only Aldrich and Murray have filed for Chapter 11 relief. Neither Aldrich's wholly-owned subsidiary, 200 Park, Murray's wholly-owned subsidiary, ClimateLabs, Trane Technologies plc nor the Trane Companies are part of the Chapter 11 filings.

The goal of these Chapter 11 filings is an efficient and permanent resolution of all current and future asbestos claims through court approval of a plan of reorganization, which would establish, in accordance with section 524(g) of the Bankruptcy Code, a trust to pay all asbestos claims. Such a resolution, if achieved, would likely include a channeling injunction to enjoin asbestos claims resolved in the Chapter 11 cases from being filed or pursued against us or our affiliates. The Chapter 11 cases remain pending as of 31 December 2020.

From an accounting perspective, we no longer have control over Aldrich and Murray as of the Petition Date as their activities are subject to review and oversight by the Bankruptcy Court. Therefore, Aldrich and its wholly-owned subsidiary 200 Park and Murray and its wholly-owned subsidiary ClimateLabs were deconsolidated as of the Petition Date and their respective assets and liabilities were derecognized from our Consolidated Financial Statements. As a result, we recorded an equity investment for an aggregate of $53.6 million within *Financial assets* in the Consolidated Balance Sheet. Simultaneously, we recognized a liability of $248.8 million within *Provisions for liabilities* in the Consolidated Balance Sheet related to our obligation under the Funding Agreements. The liability recorded may be subject to change based on the facts and circumstances of the Chapter 11 proceedings.

As a result of these actions, we recognized an aggregate loss of $24.9 million in our Consolidated Profit and Loss Account. A gain of $0.9 million related to Murray and its wholly-owned subsidiary ClimateLabs was recorded within *Other operating expense* and a loss of $25.8 million related to Aldrich and its wholly-owned subsidiary 200 Park was recorded within *Discontinued operations, net of taxation*. Additionally, the deconsolidation resulted in an investing cash outflow of $41.7 million in our Consolidated Statement of Cash Flows, of which $10.8 million was recorded within continuing operations.

Issuance of Senior Notes

In March 2019, we issued $1.5 billion principal amount of senior notes in three tranches through Trane Technologies Luxembourg Finance S.A., an indirect, wholly-owned subsidiary. The tranches consist of $400 million aggregate principal amount of 3.500% senior notes due 2026, $750 million aggregate principal amount of 3.800% senior notes due 2029 and $350 million aggregate principal amount of 4.500% senior notes due 2049.

Trends and Economic Events

We are a global corporation with worldwide operations. As a global business, our operations are affected by worldwide, regional and industry-specific economic factors as well as political and social factors wherever we operate or do business. Our geographic diversity and the breadth of our product and services portfolios have helped mitigate the impact of any one industry or the economy of any single country on our consolidated operating results.

Given our broad range of products manufactured and geographic markets served, management uses a variety of factors to predict the outlook for our company. We monitor key competitors and customers in order to gauge relative performance and the outlook for the future. We regularly perform detailed evaluations of the different market segments we are serving to proactively detect trends and to adapt our strategies accordingly. In addition, we believe our order rates are indicative of future turnover and thus are a key measure of anticipated performance.

Current economic conditions are uncertain as a result of the COVID-19 global pandemic, impacting both the global Heating, Ventilation and Air Conditioning (HVAC) and Transport end-markets as well as limiting visibility in the factors used to predict the outlook for our company. Entering 2021, market conditions are expected to improve as vaccine distribution expands across the geographies where we serve our customers.

We believe we have a solid foundation of global brands that are highly differentiated in all of our major product lines. Our geographic and product diversity coupled with our large installed product base provides growth opportunities within our service, parts and replacement turnover streams. In addition, we are investing substantial resources to innovate and develop new products and services which we expect will drive our future growth.

Results of Operations

In connection with the completion of the Transaction, we do not beneficially own any Ingersoll Rand Industrial shares of common stock and no longer consolidate Ingersoll Rand Industrial in our financial statements. As a result, the following *Business Review and Results of Operations* presents the results of Ingersoll Rand Industrial as a discontinued operation for periods prior to the Distribution date. In addition, the assets and liabilities of Ingersoll Rand Industrial have been recast to held-for-sale at 31 December 2019.

Year Ended 31 December 2020 Compared to the Year Ended 31 December 2019 - Consolidated Results

	2020	2019	Period Change
	$m	$m	$m
Turnover	12,454.7	13,075.9	(621.2)
Cost of sales	(8,651.3)	(9,085.5)	434.2
Distribution costs and administrative expenses	(2,270.6)	(2,320.3)	49.7
Other operating expense	(0.4)	(29.0)	28.6
Operating profit	1,532.4	1,641.1	(108.7)
Interest receivable and similar income	4.5	0.6	3.9
Interest payable and similar charges	(248.7)	(242.8)	(5.9)
Profit on ordinary activities before taxation	1,288.2	1,398.9	(110.7)
Tax on profit on ordinary activities	(296.8)	(238.6)	(58.2)
Profit on ordinary activities after taxation	991.4	1,160.3	(168.9)
Discontinued operations, net of taxation	(121.4)	268.2	(389.6)
Profit for the financial year	870.0	1,428.5	(558.5)

KEY PERFORMANCE INDICATORS

Turnover

Turnover for the year ended 31 December 2020 decreased by 4.8% (2019: increased by 5.9%), or $621.2 million (2019: $732.1 million). The components of the period change were as follows:

	2020	2019
Volume/product mix	(5.5)%	5.2 %
Pricing	0.8 %	1.9 %
Currency translation	(0.1)%	(1.2)%
Total	(4.8)%	5.9 %

During 2020, we were impacted by the economic environment resulting from the COVID-19 global pandemic; however, strong operational results during the second half of the year mitigated a challenging first half. The decrease in *Turnover* is primarily related to lower volumes across each of our segments. Temporary facility closures beginning in the first quarter of 2020 disrupted results in the Asia Pacific region with impacts more widely felt throughout operations in the Americas and EMEA in the months thereafter. Unfavorable foreign currency exchange rate movements further contributed to the year-over-year decrease, partially offset by improved pricing. Refer to the "Results by Segment" below for a discussion of *Turnover* by segment.

Gross Profit Margin

Gross profit margin for the year ended 31 December 2020 remained flat at 30.5% compared to the same period of 2019. Gross profit margin was favorably impacted by improved pricing, cost containment initiatives and deflation. However, these favorable impacts were offset by unfavorable product mix due to lower volumes on higher margin products and the under absorption of fixed production overhead costs.

Distribution Costs and Administrative Expenses

Distribution costs and *Administrative expenses* for the year ended 31 December 2020 decreased by 2.1%, or $49.7 million, compared with the same period of 2019. Due to the COVID-19 global pandemic, we initiated cost containment actions in order to mitigate its impacts on our business including reduced discretionary spending, employee furloughs in certain regions, and a six-month delay to annual merit-based salary increases. These amounts were partially offset by higher spending on restructuring and transformation initiatives associated with the completion of the Transaction. However, distribution costs and administrative expenses as a percentage of turnover for the year ended 31 December 2020 increased 50 basis points from 17.7% to 18.2% primarily due to lower comparable turnover year-over-year.

Interest payable and similar charges

Interest payable for the year ended 31 December 2020 increased by $5.9 million compared with the same period of 2019 due to the $1.5 billion issuance of Senior notes during the first quarter of 2019. The increase was partially offset by the redemption of 2.625% Senior notes in April 2020 of $300.0 million and repayment of commercial paper of $179.0 million during the third quarter of 2019.

Other operating expense

The components of *Other operating expense*, for the years ended 31 December are as follows:

	2020	2019	Period Change
	$m	$m	$m
Foreign currency exchange gain (loss)	(10.0)	(9.5)	(0.5)
Other components of net periodic benefit cost	(14.7)	(34.9)	20.2
Other miscellaneous income/(expense)	24.3	15.4	8.9
Other operating expense	(0.4)	(29.0)	28.6

Other operating expense includes the results from activities other than normal business operations such as foreign currency gains and losses on transactions that are denominated in a currency other than an entity's functional currency. In addition, we include the components of net periodic benefit cost for pension and post retirement obligations other than the service cost component. Other miscellaneous income/(expense) includes items associated with certain legal matters as well as asbestos-related activities through the Petition Date. During the year ended 31 December 2020, we recorded a $17.4 million adjustment to correct an overstatement of a legacy legal liability that originated in prior years and a gain of $0.9 million related to the deconsolidation of Murray and its wholly-owned subsidiary ClimateLabs within other miscellaneous income/(expense).

Provision for taxation

The 2020 effective tax rate was 23.0% which was higher than the U.S. Statutory rate of 21% due to a $36.5 million non-cash charge related to the establishment of valuation allowances on net deferred tax assets, primarily net operating losses in certain tax jurisdictions and the write-off of a carryforward tax attribute as a result of the completion of the Transaction, U.S. state and local taxes and certain non-deductible employee expenses. These amounts were partially offset by excess tax benefits from employee share-based payments, a $14.0 million benefit primarily related to a reduction in valuation allowances on deferred taxes related to net operating losses as a result of a planned restructuring in a non-U.S. tax jurisdiction and foreign tax credits as a result of revised projections of future foreign source income and earnings in non-U.S. jurisdictions, which in aggregate have a lower effective tax rate. In addition, the reduction was also driven by earnings in non-U.S. jurisdictions, which in aggregate, have a lower effective tax rate. The impact of the changes in the valuation allowances and the write-off of the carryforward tax attribute increased the effective tax rate by 1.7%. Turnover from non-U.S. jurisdictions accounted for approximately 28% of our total 2020 turnover, such that a material portion of our pretax income was earned and taxed outside the U.S. at rates ranging from 0% to 38%. When comparing the results of multiple reporting periods, among other factors, the mix of earnings between U.S. and foreign jurisdictions can cause variability in our overall effective tax rate.

The 2019 effective tax rate was 17.1% which is lower than the U.S. Statutory rate of 21% primarily due to a reduction in deferred tax asset valuation allowances for certain non-U.S. net deferred tax assets and excess tax benefits from employee share-based payments. These amounts were partially offset by U.S. state and local taxes, an increase in a deferred tax asset valuation allowance for certain state net deferred tax assets and certain non-deductible expenses. In addition, the reduction was also driven by earnings in non-U.S. jurisdictions, which in aggregate, have a lower effective tax rate. Turnover from non-U.S. jurisdictions accounts for approximately 31% of our total 2019 turnover, such that a material portion of our pretax income was earned and taxed outside the U.S. at rates ranging from 0% to 38%. When comparing the results of multiple reporting periods, among other factors, the mix of earnings between U.S. and foreign jurisdictions can cause variability in our overall effective tax rate.

Discontinued Operations

The components of *Discontinued operations, net of taxation* for the years ended 31 December are as follows:

	2020	2019	Period Change
	$m	$m	$m
Turnover	469.8	3,523.0	(3,053.2)
Profit (loss) from discontinued operations before taxation	(136.3)	397.5	(533.8)
Benefit (provision) for income taxes	14.9	(129.3)	144.2
Discontinued operations, net of taxation	(121.4)	268.2	(389.6)

Discontinued operations are retained obligations from previously sold businesses, including amounts related to Ingersoll Rand Industrial as part of the completion of the Transaction and asbestos-related activities of Aldrich through the Petition Date. In addition, the year ended 31 December 2020 includes pre-tax Ingersoll Rand Industrial separation costs primarily related to legal, consulting and advisory fees of $114.2 million and a loss of $25.8 million related to the deconsolidation of Aldrich and its wholly-owned subsidiary 200 Park. The year ended 31 December 2019 includes $94.6 million of pre-tax Ingersoll Rand Industrial separation costs.

The components of *Discontinued operations, net of taxation* for the years ended 31 December are as follows:

	2020	2019	Period Change
	$m	$m	$m
Ingersoll Rand Industrial, net of taxation	(84.9)	227.6	(312.5)
Other discontinued operations, net of taxation	(36.5)	40.6	(77.1)
Discontinued operations, net of taxation	(121.4)	268.2	(389.6)

Year Ended 31 December 2020 Compared to the Year Ended 31 December 2019 - Results by Segment

We operate under three regional operating segments designed to create deep customer focus and relevance in markets around the world.

- Our Americas segment innovates for customers in the North America and Latin America regions. The Americas segment encompasses commercial heating and cooling systems, building controls, and energy services and solutions; residential heating and cooling; and transport refrigeration systems and solutions.
- Our EMEA segment innovates for customers in the Europe, Middle East and Africa region. The EMEA segment encompasses heating and cooling systems, services and solutions for commercial buildings, and transport refrigeration systems and solutions.
- Our Asia Pacific segment innovates for customers throughout the Asia Pacific region. The Asia Pacific segment encompasses heating and cooling systems, services and solutions for commercial buildings and transport refrigeration systems and solutions.

Management measures operating performance based on profit for the financial year excluding interest payable, taxation, depreciation and amortization, restructuring, unallocated corporate expenses and discontinued operations (Segment Adjusted EBITDA). Segment Adjusted EBITDA is not defined under GAAP and may not be comparable to similarly-titled measures used by other companies and should not be considered a substitute for profit or other results reported in accordance with GAAP. We believe Segment Adjusted EBITDA provides the most relevant measure of profitability as well as earnings power and the ability to generate cash. This measure is a useful financial metric to assess our operating performance from period to period by excluding certain items that we believe are not representative of our core business and we use this measure for business planning purposes. Segment Adjusted EBITDA also provides a useful tool for assessing the comparability between periods and our ability to generate cash from operations sufficient to pay taxes, to service debt and to undertake capital expenditures because it eliminates non-cash charges such as depreciation and amortization expense.

The following discussion compares our results for each of our three reportable segments for the year ended 31 December 2020 compared to the year ended 31 December 2019.

	2020 $m	2019 $m	Period Change $m	% Change
Americas				
Turnover	9,685.9	10,059.5	(373.6)	(3.7)%
Segment Adjusted EBITDA	1,677.7	1,742.1	(64.4)	(3.7)%
Segment Adjusted EBITDA as a percentage of turnover	17.3 %	17.3 %		
EMEA				
Turnover	1,648.1	1,762.6	(114.5)	(6.5)%
Segment Adjusted EBITDA	265.7	267.7	(2.0)	(0.7)%
Segment Adjusted EBITDA as a percentage of turnover	16.1 %	15.2 %		
Asia Pacific				
Turnover	1,120.7	1,253.8	(133.1)	(10.6)%
Segment Adjusted EBITDA	188.8	182.8	6.0	3.3 %
Segment Adjusted EBITDA as a percentage of turnover	16.8 %	14.6 %		
Total Turnover	12,454.7	13,075.9	(621.2)	(4.8)%
Total Segment Adjusted EBITDA	2,132.2	2,192.6	(60.4)	(2.8)%

Americas

Turnover for the year ended 31 December 2020 decreased by 3.7% (2019 increased by 9.1%) or $373.6 million (2019: $840.1 million), compared with the same period of 2019. The components of the period change are as follows:

	2020	2019
Volume/product mix	(4.4)%	7.2 %
Pricing	1.0 %	2.3 %
Currency translation	(0.3)%	(0.4)%
Total	(3.7)%	9.1 %

During 2020, the Americas region was impacted by the economic environment resulting from the COVID-19 global pandemic, however strong operational results during the second half of the year mitigated a challenging first half. The decrease in *Turnover* primarily related to lower volumes in each of our businesses during the first half of 2020. In addition, unfavorable foreign currency exchange rate movements further contributed to the year-over-year decrease, partially offset by favorable pricing.

Segment Adjusted EBITDA margin for the year ended 31 December 2020 remained flat at 17.3% compared to the same period of 2019. Improved pricing, cost containment initiatives, deflation and lower spending on investments were offset by unfavorable product mix, lower volumes and under absorption of fixed production overhead costs.

EMEA

Turnover for the year ended 31 December 2020 decreased by 6.5% (2019 decreased by 3.7%) or $114.5 million (2019: $68.5 million), compared with the same period of 2019. The components of the period change are as follows:

	2020	2019
Volume/product mix	(8.0)%	0.2 %
Pricing	0.3 %	0.5 %
Currency translation	1.2 %	(4.4)%
Total	(6.5)%	(3.7)%

During 2020, the EMEA region was heavily impacted by the economic environment resulting from the COVID-19 global pandemic. The decrease in *Turnover* primarily related to lower volumes, partially offset by favorable foreign currency exchange rate movements and improved pricing.

Segment Adjusted EBITDA margin for the year ended 31 December 2020 increased by 90 basis points to 16.1% compared to 15.2% for the same period of 2019. The increase was primarily driven by cost containment initiatives, lower spending on investments, favorable foreign currency exchange rate movements and improved pricing. These amounts were partially offset by lower volumes, unfavorable product mix and under absorption of fixed production overhead costs.

Asia Pacific

Turnover for the year ended 31 December 2020 decreased by 10.6% (2019 decreased by 3.1%) or $133.1 million (2019: $39.5 million), compared with the same period of 2019. The components of the period change are as follows:

	2020	**2019**
Volume/product mix	(11.5)%	(1.6)%
Pricing	0.5 %	0.6 %
Currency translation	0.4 %	(2.1)%
Total	(10.6)%	(3.1)%

During 2020, the Asia Pacific region was heavily impacted by the economic environment resulting from the COVID-19 global pandemic. The decrease in *Turnover* primarily related to lower volumes since the beginning of the year, partially offset by improved pricing and favorable foreign currency exchange rate movements.

Segment Adjusted EBITDA margin for the year ended 31 December 2020 increased by 220 basis points to 16.8% compared to 14.6% for the same period of 2019. The increase was primarily driven by cost containment initiatives, improved pricing and deflation. These amounts were partially offset by lower volumes, unfavorable product mix and under absorption of fixed production overhead costs.

LIQUIDITY AND CAPITAL RESOURCES

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. In doing so, we review and analyze our current cash on hand, the number of days our sales are outstanding, inventory turns, capital expenditure commitments and income tax payments. Our cash requirements primarily consist of the following:

- Funding of working capital
- Funding of capital expenditures
- Dividend payments
- Debt service requirements

Our primary sources of liquidity include cash balances on hand, cash flows from operations, proceeds from debt offerings, commercial paper, and borrowing availability under our existing credit facilities. We earn a significant amount of our operating profit in jurisdictions where it is deemed to be permanently reinvested. Our most prominent jurisdiction of operation is the U.S. We expect existing cash at bank and in hand available to the U.S. operations, the cash generated by our U.S. operations, our committed credit lines as well as our expected ability to access the capital and debt markets will be sufficient to fund our U.S. operating and capital needs for at least the next twelve months and thereafter for the foreseeable future. In addition, we expect existing non-U.S. cash at bank and in hand and the cash generated by our non-U.S. operations will be sufficient to fund our non-U.S. operating and capital needs for at least the next twelve months and thereafter for the foreseeable future. The maximum aggregate amount of unsecured commercial paper notes available to be issued, on a private placement basis, under the commercial paper program is $2.0 billion, of which we had no outstanding balance as of 31 December 2020.

As of 31 December 2020, we had $3,289.9 million of cash at bank and in hand, of which $2,471.2 million was held by non-U.S. subsidiaries. As of 31 December 2019, we had $1,278.6 million of cash at bank and in hand, of which $908.8 million was held by non-U.S. subsidiaries. Cash at bank and in hand held by our non-U.S. subsidiaries are generally available for use in our U.S. operations via intercompany loans, equity infusions or via distributions from direct or indirectly owned non-U.S. subsidiaries for which we do not assert permanent reinvestment. As a result of the Tax Cuts and Jobs Act in 2017, additional repatriation opportunities to access cash at bank and in hand held by non-U.S. subsidiaries have been created. In general, repatriation of cash to the U.S. can be completed with no significant incremental U.S. tax. However, to the extent that we repatriate funds from non-U.S. subsidiaries for which we assert permanent reinvestment to fund our U.S. operations, we would be required to accrue and pay applicable non-U.S. taxes. As of 31 December 2020, we currently have no plans to repatriate funds from subsidiaries for which we assert permanent reinvestment.

Share repurchases are made from time to time in accordance with our balanced capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, our Board of Directors authorized the repurchase of up to $1.5 billion of our ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. No material amounts were repurchased under this program in 2018. During the year ended 31 December 2019, we repurchased and canceled approximately $750 million of our ordinary shares. During the year ended 31 December 2020, we repurchased and canceled approximately $250 million of our ordinary shares leaving approximately $500 million remaining under the 2018 Authorization. Additionally, through February 9, 2021, we repurchased approximately $100 million of our ordinary shares under the 2018 Authorization leaving approximately $400 million remaining under the 2018 Authorization. In February 2021, our Board of Directors authorized the repurchase of up to $2.0 billion of our ordinary shares under a new share repurchase program (2021 Authorization) upon completion of the 2018 Authorization.

In June 2018, we announced an increase in our quarterly share dividend from $0.45 to $0.53 per ordinary share. This reflected an 18% increase that began with our September 2018 payment and an 83% increase since the beginning of 2016. In February 2021, we announced an 11% increase in our quarterly share dividend from $0.53 to $0.59 per ordinary share that began with our March 2021 payment.

We continue to actively manage and strengthen our business portfolio to meet the current and future needs of our customers. We achieve this partly through engaging in research and development and sustaining activities and partly through acquisitions. Each year, we make a significant investment in new product development and new technology innovation as they are key factors in achieving our strategic objectives as a leader in the climate sector. We also focus on partnering with our suppliers and technology providers to align their investment decisions with our technical requirements. In addition, we have a strong focus on sustaining activities, which include costs incurred to reduce production costs, improve existing products, create custom solutions for customers and provide support to our manufacturing facilities. Combined, these costs account for approximately two percent of turnover each year.

In pursuing our business strategy, we routinely conduct discussions, evaluate targets and enter into agreements regarding possible acquisitions, divestitures, joint ventures and equity investments. Since 2018, we have acquired several businesses and entered into a joint venture that complements existing products and services further enhancing our product portfolio. In addition, we completed a Reverse Morris Trust transaction with Gardner Denver whereby we separated Ingersoll Rand Industrial from our business portfolio, transforming the Group into a global climate innovator. We recognized separation-related costs of $114.2 million during the year ended 31 December 2020 and $94.6 million during the year ended 31 December 2019. These expenditures were incurred in order to facilitate the transaction and are included within *Discontinued operations, net of taxation*.

We incur ongoing costs associated with restructuring initiatives intended to result in improved operating performance, profitability and working capital levels. Actions associated with these initiatives may include workforce reductions, improving manufacturing productivity, realignment of management structures and rationalizing certain assets. Post separation, we intend to reduce annual costs by $140 million through 2021 and an additional $160 million by 2023 for a total of $300 million in total annual savings. We believe that our existing cash flow, committed credit lines and access to the capital markets will be sufficient to fund share repurchases, dividends, research and development, sustaining activities, business portfolio changes and ongoing restructuring actions.

Certain of our subsidiaries entered into funding agreements with Aldrich and Murray pursuant to which those subsidiaries are obligated, among other things, to pay the costs and expenses of Aldrich and Murray during the pendency of the Chapter 11 cases to the extent distributions from their respective subsidiaries are insufficient to do so and to provide an amount for the funding for a trust established pursuant to section 524(g) of the Bankruptcy Code, to the extent that the other assets of Aldrich and Murray are insufficient to provide the requisite trust funding.

As the COVID-19 global pandemic impacts both the broader economy and our operations, we will continue to assess our liquidity needs and our ability to access capital markets. A continued worldwide disruption could materially affect economies and financial markets worldwide, resulting in an economic downturn that could affect demand for our products, our ability to obtain financing on favorable terms and otherwise adversely impact our business, financial condition and results of operations. The COVID-19 global pandemic created substantial volatility in the short-term credit markets during the first half of 2020. A recurrence in volatility due to a resurgence in the COVID-19 global pandemic could impact the cost of our credit facilities, the cost of any borrowing we might make under those facilities or the cost of any commercial paper we may issue, to the extent we were to either draw on our facilities or issue commercial paper.

Liquidity

The following table contains several key measures of our financial condition and liquidity at the financial year ended 31 December:

	2020 $m	2019 $m
Cash at bank and in hand	3,289.9	1,278.6
Short-term borrowings and current maturities of long-term debt (1)	775.6	650.3
Long-term debt	4,496.5	4,922.9
Total debt	5,272.1	5,573.2
Total Trane Technologies plc shareholders' equity	6,407.7	7,267.6
Total equity (including non-controlling interests)	6,427.1	7,312.4
Debt-to-total capital ratio	45.1 %	43.3 %

(1) The $300.0 million of 2.625% Senior notes due in May 2020 were redeemed in April 2020.

Debt and Credit Facilities

Our short-term obligations primarily consist of current maturities of long-term debt. In addition, we have outstanding $343.0 million of fixed rate debentures that contain a put feature that the holders may exercise on each anniversary of the issuance date. If exercised, we are obligated to repay in whole or in part, at the holder's option, the outstanding principal amount (plus accrued and unpaid interest) of the debentures held by the holder. We also maintain a commercial paper program which is used for general corporate purposes. Under the program, the maximum aggregate amount of unsecured commercial paper notes available to be issued, on a private placement basis, is $2.0 billion as of 31 December 2020. We had no commercial paper outstanding at 31 December 2020 and 31 December 2019. See Note 26 to the Consolidated Financial Statements for additional information regarding the terms of our short-term obligations.

Our long-term obligations primarily consist of long-term debt with final maturity dates ranging between 2021 and 2049. In addition, we maintain two $1.0 billion senior unsecured revolving credit facilities, one of which matures in March 2022 and the other in April 2023. The facilities provide support for our commercial paper program and can be used for working capital and other general corporate purposes. Total commitments of $2.0 billion were unused at 31 December 2020 and 31 December 2019. See Note 26 to the Consolidated Financial Statements and further below in *Supplemental Guarantor Financial Information* for additional information regarding the terms of our long-term obligations and their related guarantees.

Cash Flows

The following table reflects the major categories of cash flows for the years ended 31 December, respectively. For additional details, please see the Consolidated Statements of Cash Flows in the Consolidated Financial Statements.

	2020 $m	2019 $m
Net cash provided by (used in) continuing operating activities	1,766.2	1,523.7
Net cash provided by (used in) continuing investing activities	(338.5)	(281.8)
Net cash provided by (used in) continuing financing activities	884.3	272.0

Operating Activities

Net cash provided by continuing operating activities for the year ended 31 December 2020 was $1,766.2 million, of which net income provided $1,422.5 million after adjusting for non-cash transactions. *Changes in other assets and liabilities* provided $343.7 million. Net cash provided by continuing operating activities for the year ended 31 December 2019 was $1,523.7 million, of which net income provided $1,594.0 million after adjusting for non-cash transactions. *Changes in other assets and liabilities* used $70.3 million. The year-over-year increase in net cash provided by continuing operating activities was primarily driven by improved working capital whereby lower inventory and higher outstanding Trade Creditor balances more than offset higher accounts receivable and lower earnings in the current year.

Investing Activities

Cash flows from continuing investing activities represents inflows and outflows regarding the purchase and sale of assets. Primary activities associated with these items include capital expenditures, proceeds from the sale of property, plant and equipment, acquisitions, investments in joint ventures and divestitures. During the year ended 31 December 2020, net cash used in investing activities from continuing operations was $338.5 million. The primary drivers of the usage was attributable to the acquisition of businesses, which totaled $182.8 million, net of cash acquired and $146.2 million of capital expenditures. In addition, as a result of the deconsolidation of Murray and its wholly-owned subsidiary ClimateLabs under the Chapter 11 bankruptcy filing, the assets and liabilities of these entities were derecognized, which resulted in a cash outflow of $10.8 million. During the year ended 31 December 2019, net cash used in investing activities from continuing operations was $281.8 million. The primary drivers of the usage was attributable to $205.4 million of capital expenditures and the acquisition of several businesses, which totaled $83.4 million, net of cash acquired.

Financing Activities

Cash flows from continuing financing activities represent inflows and outflows that account for external activities affecting equity and debt. Primary activities associated with these actions include paying dividends to shareholders, repurchasing our own shares, issuing our stock and debt transactions. During the year ended 31 December 2020, net cash provided by financing activities from continuing operations was $884.3 million. The primary driver of the inflow related to the receipt of a special cash payment of $1.9 billion pursuant to the completion of the Transaction. This amount was partially offset by dividends paid to ordinary shareholders of $507.3 million, the repayment of long term debt of $307.5 million and the repurchase of $250.0 million in ordinary shares. During the year ended 31 December 2019, net cash provided by financing activities from continuing operations was $272.0 million. The primary driver of the inflow related to the issuance of $1.5 billion of senior notes during the period. This amount was partially offset by the repurchase of $750.1 million in ordinary shares and dividends paid to ordinary shareholders $510.1 million.

Free Cash Flow

Free cash flow is a non-GAAP measure and defined as net cash provided by (used in) continuing operating activities, less capital expenditures, plus cash payments for restructuring and transformation costs. This measure is useful to management and investors because it is consistent with management's assessment of our operating cash flow performance. The most comparable GAAP measure to free cash flow is net cash provided by (used in) continuing operating activities. Free cash flow may not be comparable to similarly-titled measures used by other companies and should not be considered a substitute for net cash provided by (used in) continuing operating activities in accordance with GAAP.

A reconciliation of net cash provided by (used in) continuing operating activities to free cash flow for the years ended 31 December is as follows:

		2020		2019
		$m		$m
Net cash provided by (used in) continuing operating activities	$	1,766.2	$	1,523.7
Capital expenditures		(146.2)		(205.4)
Cash payments for restructuring		68.9		45.3
Transformation costs paid		25.4		4.3
Free cash flow [(1)]	$	1,714.3	$	1,367.9

[(1)] Represents a non-GAAP measure.

Pension Plans

Our investment objective in managing defined benefit plan assets is to ensure that all present and future benefit obligations are met as they come due. We seek to achieve this goal while trying to mitigate volatility in plan funded status, contribution and expense by better matching the characteristics of the plan assets to that of the plan liabilities. Our approach to asset allocation is to increase fixed income assets as the plan's funded status improves. We monitor plan funded status and asset allocation regularly in addition to investment manager performance. In addition, we monitor the impact of market conditions on our defined benefit plans on a regular basis. None of our defined benefit pension plans have experienced a significant impact on their liquidity due to market volatility. See Note 29 to the Consolidated Financial Statements for additional information regarding pensions.

Supplemental Guarantor Financial Information

Trane Technologies plc (Plc or Parent Company) and certain of its 100% directly or indirectly owned subsidiaries provide guarantees of public debt issued by other 100% directly or indirectly owned subsidiaries. The following table shows our guarantor relationships as of 31 December 2020:

Parent, issuer or guarantors [(1)]	Notes issued	Notes guaranteed
Trane Technologies plc (Plc)	None	All registered notes and debentures
Trane Technologies Irish Holdings Unlimited Company (TT Holdings)	None	All notes issued by TT Lux and TTC HoldCo
Trane Technologies Lux International Holding Company S.à.r.l. (TT International)	None	All notes issued by TT Lux and TTC HoldCo
Trane Technologies Global Holding Company Limited (TT Global)	None	All notes issued by TT Lux and TTC HoldCo
Trane Technologies Luxembourg Finance S.A. (TT Lux)	3.550% Senior notes due 2024 3.500% Senior notes due 2026 3.800% Senior notes due 2029 4.650% Senior notes due 2044 4.500% Senior notes due 2049	All notes and debentures issued by TTC HoldCo and TTC
Trane Technologies HoldCo Inc. (TTC HoldCo)	2.900% Senior notes due 2021 4.250% Senior notes due 2023 3.750% Senior notes due 2028 5.750% Senior notes due 2043 4.300% Senior notes due 2048	All notes issued by TT Lux
Trane Technologies Company LLC (TTC)	9.000% Debentures due 2021 7.200% Debentures due 2021-2025 6.480% Debentures due 2025 Puttable debentures due 2027-2028	All notes issued by TT Lux and TTC HoldCo

(1) Plc is formerly known as Ingersoll-Rand plc
TT Holdings is formerly known as Ingersoll-Rand Irish Holdings Unlimited Company
TT International is formerly known as Ingersoll-Rand Lux International Holding Company S.à.r.l
TT Global is formerly known as Ingersoll-Rand Global Holding Company Limited
TT Lux is formerly known as Ingersoll-Rand Luxembourg Finance S.A
TTC HoldCo is a new entity as of 30 June 2020
TTC is the successor to Ingersoll-Rand Company

Each subsidiary debt issuer and guarantor is owned 100% directly or indirectly by the Parent Company. Each guarantee is full and unconditional, and provided on a joint and several basis. There are no significant restrictions of the Parent Company, or any guarantor, to obtain funds from its subsidiaries, such as provisions in debt agreements that prohibit dividend payments, loans or advances to the parent by a subsidiary. Our obligor groups are as follows: obligor group 1 consists of Plc, TT Holdings, TT International, TT Global, TT Lux, TTC HoldCo and TTC; obligor group 2 consists of Plc, TT Lux and TTC.

Capital Resources

Based on historical performance and current expectations, we believe our cash at bank and in hand balance, the cash generated from our operations, our committed credit lines and our expected ability to access capital markets will satisfy our working capital needs, capital expenditures, dividends, share repurchases, upcoming debt maturities, and other liquidity requirements associated with our operations for the foreseeable future.

Capital expenditures were $146.2 million and $205.4 million for the years ended 31 December 2020 and 2019, respectively. Our investments continue to improve manufacturing productivity, reduce costs, provide environmental enhancements, upgrade information technology infrastructure and security and advanced technologies for existing facilities. The capital expenditure program for 2021 is estimated to be approximately one to two percent of turnover, including amounts approved in prior periods. Many of these projects are subject to review and cancellation at our option without incurring substantial charges.

Capitalization

In addition to cash on hand and operating cash flow, we maintain significant credit availability under our Commercial Paper Program. Our ability to borrow at a cost-effective rate under the Commercial Paper Program is contingent upon maintaining an investment-grade credit rating. As of 31 December 2020, our credit ratings were as follows, remaining unchanged from 2019:

	Short-term	Long-term
Moody's	P-2	Baa2
Standard and Poor's	A-2	BBB

The credit ratings set forth above are not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal by the assigning rating organization. Each rating should be evaluated independently of any other rating.

Our public debt does not contain financial covenants and our revolving credit lines have a debt-to-total capital covenant of 65%. As of 31 December 2020, our debt-to-total capital ratio was significantly beneath this limit.

Contractual Obligations

The following table summarises our contractual cash obligations by required payment periods, in millions:

	Less than 1 year		1 - 3 years	3 - 5 years	More than 5 years	Total
	$m		$m	$m	$m	$m
Long-term debt	775.8	(a)	715.8	665.1	3,150.0	5,306.7
Interest payments on long-term debt	231.4		415.1	345.7	1,641.6	2,633.8
Purchase obligations	735.2		—	—	—	735.2
Operating leases	152.0		192.3	69.6	34.5	448.4
Total contractual cash obligations	1,894.4		1,323.2	1,080.4	4,826.1	9,124.1

(a) Includes $343.0 million of debt redeemable at the option of the holder. The scheduled maturities of these bonds range between 2027 and 2028.

Future expected obligations under the Funding agreement and our pension and postretirement benefit plans, income taxes, environmental and product liability matters have not been included in the contractual cash obligations table above.

Pensions

At 31 December 2020, we had a net unfunded liability of $548.2 million (2019: $714.4 million), which consists of noncurrent pension assets of $72.8 million (2019: $50.0 million) and current and non-current pension benefit liabilities of $621.0 million (2019: $624.5 million). It is our objective to contribute to the pension plans to ensure adequate funds are available in the plans to make benefit payments to plan participants and beneficiaries when required. We currently expect that we will contribute approximately $56 million to our plans worldwide in 2021. The timing and amounts of future contributions are dependent upon the funding status of the plans, which are expected to vary as a result of changes in interest rates, returns on underlying assets, and other factors. Therefore, pension contributions have been excluded from the preceding table. See Note 29 to the Consolidated Financial Statements for additional information regarding pensions.

Postretirement Benefits Other than Pensions

At 31 December 2020, we had postretirement benefit obligations of $389.1 million (2019: $428.8 million). We fund postretirement benefit costs principally on a pay-as-you-go basis as medical costs are incurred by covered retiree populations. Benefit payments, which are net of expected plan participant contributions and Medicare Part D subsidy, are expected to be approximately $37 million in 2021. Because benefit payments are not required to be funded in advance, and the timing and amounts of future payments are dependent on the cost of benefits for retirees covered by the plan, they have been excluded from the preceding table. See Note 29 to the Consolidated Financial Statements for additional information regarding postretirement benefits other than pensions.

Taxation

At 31 December 2020, we have total unrecognized tax benefits for uncertain tax positions of $65.4 million (2019: $63.7 million) and $14.6 million (2019: $16.0 million) of related accrued interest and penalties, net of tax. The liability has been excluded from the preceding table as we are unable to reasonably estimate the amount and period in which these liabilities might be paid. See Note 12 to the Consolidated Financial Statements for additional information regarding income taxes, including unrecognized tax benefits.

Contingent Liabilities

We are involved in various litigation, claims and administrative proceedings, including those related to the Funding Agreements and environmental, and product liability matters. We believe that these liabilities are subject to the uncertainties inherent in estimating future costs for contingent liabilities, and will likely be resolved over an extended period of time. Because the timing and amounts of potential future cash flows are uncertain, they have been excluded from the preceding table. See Note 31 to the Consolidated Financial Statements for additional information regarding contingent liabilities.

PRINCIPAL RISKS

Risks Relating to Business Operations

Our business, financial condition, results of operations, and cash flows are subject to a number of risks that could cause the actual results and conditions to differ materially from those projected in forward-looking statements contained in this report. The risks set forth below are those we consider most significant. We face other risks, however, that we do not currently perceive to be material which could cause actual results and conditions to differ materially from our expectations. You should evaluate all risks before you invest in our securities. If any of the risks actually occur, our business, financial condition, results of operations or cash flows could be adversely impacted. In that case, the trading price of our ordinary shares could decline, and you may lose all or part of your investment.

Risks Related to Economic Conditions

The COVID-19 global pandemic and resulting adverse economic conditions have already adversely impacted our business and could have a more material adverse impact on our business, financial condition and results of operations.

We continue to closely monitor the impact of the COVID-19 global pandemic on all aspects of our business and geographies, including how it has and will impact our customers, team members, suppliers, vendors, business partners and distribution channels. The COVID-19 global pandemic has created significant volatility, uncertainty and economic disruption, which may continue to affect our business operations and may materially and adversely affect our results of operations, cash flows and financial position.

While our business is largely categorized as "essential" by the U.S. Department of Homeland Security, the COVID-19 global pandemic has caused certain disruptions to and shutdowns of our business and operations and could cause material disruptions to and shutdowns of our business and operations in the future as a result of, among other things, quarantines, worker absenteeism as a result of illness or other factors, social distancing measures and other travel, health-related, business or other restrictions. Our business and operations have been impacted globally, resulting in lower turnover, supply chain delays and unfavorable foreign currency exchange rate movements. The COVID-19 global pandemic has also adversely impacted, and may continue to adversely impact, our suppliers and their manufacturers and our customers. Some of our purchases are from sole or limited source suppliers for reasons of cost effectiveness, uniqueness of design, or product quality. The effects of the COVID-19 global pandemic may exacerbate supply chain issues with these suppliers. Any delay in receiving critical supplies could have a material adverse effect on our results of operations, financial condition and cash flows.

As a result of the effects of the COVID-19 global pandemic, our costs have increased (including the costs to address the health and safety of our employees), our ability to obtain products or services from suppliers has been and may be adversely impacted, and our ability to operate at certain impacted locations has been and may be impacted, and, as a result, our business, financial condition and results of operations have been adversely impacted and could be materially adversely affected if the current outbreak and spread of the COVID-19 global pandemic continues.

The COVID-19 global pandemic also resulted in severe disruptions and volatility in financial markets which had a material adverse impact on some of our customers and suppliers. A recurrence in volatility due to a resurgence in the COVID-19 global pandemic could impact our access to capital and credit markets. Notwithstanding the recent introduction of vaccines to combat the COVID-19 global pandemic and measures taken by governments to provide economic stimulus, the severity of the pandemic's impact on economies in the United States and around the world, the potential length of the economic recovery and the longer term economic impacts are uncertain. The current and potential further outbreaks and spread of the COVID-19 global pandemic or other future pandemics could cause a delayed recovery, a prolonged recession or future economic disruptions, which could have a further adverse impact on our financial condition and operations.

The impact of the COVID-19 global pandemic may also exacerbate other risks discussed in Principal Risks, any of which could have a material effect on us. This situation is continuing to evolve rapidly and additional impacts may arise that we are not aware of currently.

Our global operations subject us to economic risks.

Our global operations are dependent upon products manufactured, purchased and sold in the U.S. and internationally. These activities are subject to risks that are inherent in operating globally, including:

- changes in local laws and regulations or imposition of currency restrictions and other restraints;
- limitation of ownership rights, including expropriation of assets by a local government, and limitation on the ability to repatriate earnings;
- sovereign debt crises and currency instability in developed and developing countries;
- trade protection measures such as import or export restrictions and requirements, the imposition of burdensome tariffs and quotas or revocation or material modification of trade agreements;
- difficulty in staffing and managing global operations;
- difficulty of enforcing agreements, collecting receivables and protecting assets through non-U.S. legal systems;
- national and international conflict, including war, civil disturbances and terrorist acts; and
- recessions, economic downturns, slowing economic growth and social and political instability.

These risks could increase our cost of doing business internationally, increase our counterparty risk, disrupt our operations, disrupt the ability of suppliers and customers to fulfill their obligations, limit our ability to sell products in certain markets and have a material adverse impact on our results of operations, financial condition, and cash flows.

We face significant competition in the markets that we serve.

The markets that we serve are highly competitive. We compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. There has been consolidation and new entrants (including non-traditional competitors) within our industries and there may be future consolidation and new entrants which could result in increased competition and significantly alter the dynamics of the competitive landscape in which we operate. Due to our global footprint we are competing worldwide with large companies and with smaller, local operators who may have customer, regulatory or economic advantages in the geographies in which they are located. In addition, some of our competitors may employ pricing and other strategies that are not traditional. While we understand our markets and competitive landscape, there is always the risk of disruptive technologies coming from companies that are not traditionally manufacturers or service providers of our products.

Our growth is dependent, in part, on the development, commercialisation and acceptance of new products and services.

We must develop and commercialise new products and services in a rapidly changing technological and business environment in order to remain competitive in our current and future markets and in order to continue to grow our business. The development and commercialization of new products and services require a significant investment of resources and an anticipation of the impact of new technologies and the ability to compete with others who may have superior resources in specific technology domains. We cannot provide any assurance that any new product or service will be successfully commercialised in a timely manner, if ever, or, if commercialised, will result in returns greater than our investment. Investment in a product or service could divert our attention and resources from other projects that become more commercially viable in the market. We also cannot provide any assurance that any new product or service will be accepted by our current and future markets. Failure to develop new products and services that are accepted by these markets could have a material adverse impact on our competitive position, results of operations, financial condition, and cash flows.

Some of the markets in which we operate are cyclical and seasonal and demand for our products and services could be adversely affected by downturns in these industries.

Demand for most of our products and services depends on the level of new capital investment and planned maintenance expenditures by our customers. The level of capital expenditures by our customers fluctuates based on planned expansions, new builds, repairs, commodity prices, general economic conditions, availability of credit, inflation, interest rates, market forecasts, tax and regulatory developments, trade policies, fiscal spending and sociopolitcal factors among others.

Our commercial and residential HVAC businesses provide products and services to a wide range of markets, including significant sales to the commercial and residential construction markets. Weakness in either or both of these construction markets may negatively impact the demand for our products and services.

Demand for our commercial and residential HVAC business is also influenced by weather conditions. For instance, sales in our commercial and residential HVAC businesses historically tend to be seasonally higher in the second and third quarters of the year because, in the U.S. and other northern hemisphere markets, spring and summer are the peak seasons for sales of air conditioning systems and services. The results of any quarterly period may not be indicative of expected results for a full year and unusual weather patterns or events could negatively or positively affect our business and impact overall results of operations.

Decrease in the demand for our products and services could have a material adverse impact on our results of operations and cash flow.

The capital and credit markets are important to our business.

Instability in U.S. and global capital and credit markets, including market disruptions, limited liquidity and interest rate volatility, or reductions in the credit ratings assigned to us by independent rating agencies could reduce our access to capital markets or increase the cost of funding our short and long term credit requirements. In particular, if we are unable to access capital and credit markets on terms that are acceptable to us, we may not be able to make certain investments or fully execute our business plans and strategies.

Our suppliers and customers are also dependent upon the capital and credit markets. Limitations on the ability of customers, suppliers or financial counterparties to access credit at interest rates and on terms that are acceptable to them could lead to insolvencies of key suppliers and customers, limit or prevent customers from obtaining credit to finance purchases of our products and services and cause delays in the delivery of key products from suppliers.

In addition, changes in regulatory standards or industry practices, such as the transition away from LIBOR as a benchmark for short-term interest rates, could create incremental uncertainty in obtaining financing or increase the cost of borrowing for us, our suppliers or our customers.

Currency exchange rate fluctuations and other related risks may adversely affect our results.

We are exposed to a variety of market risks, including the effects of changes in currency exchange rates.

We have operations throughout the world that manufacture and sell products in various international markets. As a result, we are exposed to movements in exchange rates of various currencies against the U.S. dollar as well as against other currencies throughout the world.

Many of our non-U.S. operations have a functional currency other than the U.S. dollar, and their results are translated into U.S. dollars for reporting purposes. Therefore, our reported results will be higher or lower depending on the weakening or strengthening of the U.S. dollar against the respective foreign currency.

We use derivative instruments to hedge those material exposures that cannot be naturally offset. The instruments utilized are viewed as risk management tools, and are not used for trading or speculative purposes. To minimize the risk of counter party non-performance, derivative instrument agreements are made only through major financial institutions with significant experience in such derivative instruments.

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

Risks Related to Litigation

Material adverse legal judgments, fines, penalties or settlements could adversely affect our results of operations or financial condition.

We are currently and may in the future become involved in legal proceedings and disputes incidental to the operation of our business or the business operations of previously-owned entities. Our business may be adversely affected by the outcome of these proceedings and other contingencies (including, without limitation, contract claims or other commercial disputes, product liability, product defects and asbestos-related matters) that cannot be predicted with certainty. Moreover, any insurance or indemnification rights that we may have may be insufficient or unavailable to protect us against the total aggregate amount of losses sustained as a result of such proceedings and contingencies. As required by generally accepted accounting principles in the United States, we establish reserves based on our assessment of contingencies. Subsequent developments in legal proceedings and other events could affect our assessment and estimates of the loss contingency recorded as a reserve and we may be required to make additional material payments, which could have a material adverse impact on our liquidity, results of operations, financial condition, and cash flows.

The Aldrich and Murray Chapter 11 cases involve various risks and uncertainties that could have a material effect on us.

On 18 June 2020, our indirect wholly-owned subsidiaries Aldrich Pump LLC (Aldrich) and Murray Boiler LLC (Murray) each filed a voluntary petition for reorganization under Chapter 11 of Title 11 the United States Code (the Bankruptcy Code) in the United States Bankruptcy Court for the Western District of North Carolina in Charlotte (the Bankruptcy Court). The goal of these Chapter 11 filings is an efficient and permanent resolution of all current and future asbestos claims through court approval of a plan of reorganization, which would establish, in accordance with section 524(g) of the Bankruptcy Code, a trust to pay all asbestos claims. Such a resolution, if achieved, would likely include a channeling injunction to enjoin asbestos claims resolved in the Chapter 11 cases from being filed or pursued against us or our affiliates. The Chapter 11 cases remain pending.

Certain of our subsidiaries have entered into funding agreements with Aldrich and Murray (collectively the Funding Agreements), pursuant to which those subsidiaries are obligated, among other things, to fund the costs and expenses of Aldrich and Murray during the pendency of the Chapter 11 cases to the extent distributions from their respective subsidiaries are insufficient to do so and to provide an amount for the funding for a trust established pursuant to section 524(g) of the Bankruptcy Code, to the extent that the other assets of Aldrich and Murray are insufficient to provide the requisite trust funding.

There are a number of risks and uncertainties associated with these Chapter 11 cases, including, among others, those related to:

- the ultimate determination of the asbestos liability of Aldrich and Murray to be satisfied under a Chapter 11 plan;
- the outcome of negotiations with the committee of asbestos personal injury claimants appointed in the Chapter 11 cases, the future claimants' representative appointed in the Chapter 11 cases and other participants in the Chapter 11 cases, including insurers, concerning, among other things, the size and structure of a potential section 524(g) trust to pay the asbestos liability of Aldrich and Murray and the means for funding that trust;
- the actions of representatives of the asbestos claimants, including opposition to the extension of the Bankruptcy Court order temporarily staying asbestos-related claims against us and other potential actions in opposition to, or otherwise inconsistent with, the efforts by Aldrich and Murray to diligently prosecute the Chapter 11 cases and ultimately seek Bankruptcy Court approval of a plan of reorganization;
- the decisions of the Bankruptcy Court relating to numerous substantive and procedural aspects of the Chapter 11 case, including with regard to the extension of the Bankruptcy Court order temporarily staying asbestos-related claims against us and other efforts by Aldrich and Murray to diligently prosecute the Chapter 11 cases and ultimately seek Bankruptcy Court approval of a plan of reorganization, whether such decisions are in response to actions of representatives of the asbestos claimants or otherwise; and
- the decisions of appellate courts regarding approval of a plan of reorganization or relating to orders of the Bankruptcy Court that may be appealed.

The ability of Aldrich and Murray to successfully reorganize and resolve their asbestos liabilities will depend on various factors, including their ability to reach agreements with representatives of the asbestos claimants on the terms of a plan of reorganization that satisfies all applicable legal requirements and to obtain the requisite court approvals of such plan, and remains subject to the risks and uncertainties described above. We cannot ensure that Aldrich and Murray can successfully reorganize, nor can we give any assurances as to the amount of the ultimate obligations under the Funding Agreements or the resulting impact on our financial condition, results of operations or future prospects. We are also unable to predict the timing of any of the foregoing matters or the timing for a resolution of the Chapter 11 cases, all of which could have an impact on us.

It also is possible that, in the Chapter 11 cases, various parties will seek to bring claims against us and other related parties, including by raising allegations that we are liable for the asbestos-related liabilities of Aldrich and Murray. Although we believe we have no such responsibility for liabilities of Aldrich and Murray, except indirectly through our obligation to provide funding to Aldrich and Murray under the terms of the Funding Agreements, we cannot provide assurances that such claims will not be pursued.

In sum, the outcome of the Chapter 11 cases is uncertain and there is uncertainty as to what extent we may have to contribute to a section 524(g) trust under the Funding Agreements.

We are subject to risks relating to our information technology systems.

We rely extensively on information technology systems, some of which are supported by third party vendors including cloud services, to manage and operate our business. We invest in new information technology systems designed to improve our operations. We have had failures of these systems in the past and may have failures of these systems in the future. If these systems cease to function properly, if these systems experience security breaches or disruptions or if these systems do not provide the anticipated benefits, our ability to manage our operations could be impaired, which could have a material adverse impact on our results of operations, financial condition, and cash flows.

Security breaches or disruptions of the technology systems, infrastructure or products of the Company or our vendors could negatively impact our business and financial results.

Our information technology systems, networks and infrastructure and technology embedded in certain of our control products have been and may be subject to cyber attacks and unauthorized security intrusions. It is possible for such vulnerabilities to remain undetected for an extended period. Like other large companies, certain of our information technology systems and the systems of our vendors have been subject to computer viruses, malicious code, unauthorized access, phishing attempts, denial-of-service attacks and other cyber attacks and we expect that we and our vendors will be subject to similar attacks in the future. The methods used to obtain unauthorized access, disable or degrade service, or sabotage information technology systems are constantly changing and evolving. Despite having instituted security policies and business continuity plans, and implementing and regularly reviewing and updating processes and procedures to protect against unauthorized access and requiring similar protections from our vendors, the ever-evolving threats mean we must continually evaluate and adapt our systems and processes and ask our vendors to do the same, and there is no guarantee that such steps will be adequate to safeguard against all data security breaches or misuses of data. Hardware, software or applications we develop or obtain from third parties may contain defects in design or deployment or other problems that could unexpectedly result in security breaches or disruptions. Our systems, networks and certain of our control products and those of our vendors may also be vulnerable to system damage, malicious attacks from hackers, employee errors or misconduct, viruses, power and utility outages, and other catastrophic events. Any of these incidents could cause significant harm to our business by negatively impacting our business operations, compromising the security of our proprietary information or the personally identifiable information of our customers, employees and business partners, exposing us to litigation or other legal actions against us or the imposition of penalties, fines, fees or liabilities. Such events could have a material adverse impact on our results of operations, financial condition and cash flows and could damage our reputation which could adversely affect our business. Our insurance coverage may not be adequate to cover all the costs related to a cybersecurity attack or disruptions resulting from such attacks. Customers are increasingly requiring cybersecurity protections and mandating cybersecurity standards in our products, and we may incur additional costs to comply with such demands.

Data privacy and protection laws are evolving and present increasing compliance challenges.

The regulatory environment surrounding data privacy and protection is increasingly demanding, with the frequent imposition of new and changing requirements across businesses and geographic areas. We are required to comply with complex regulations when collecting, transferring and using personal data, which increases our costs, affects our competitiveness and can expose us to substantial fines or other penalties.

Intellectual property infringement claims of others and the inability to protect our intellectual property rights could harm our competitive position.

Our intellectual property rights are important to our business and include numerous patents, trademarks, copyrights, trade secrets, proprietary technology, technical data, business processes, and other confidential information. Although in aggregate we consider our intellectual property rights to be valuable to our operations, we do not believe that our business is materially dependent on a single intellectual property right or any group of them. In our opinion, engineering, production skills and experience are more responsible for our market position than our patents and/or licenses.

Nonetheless, this intellectual property may be subject to challenge, infringement, invalidation or circumvention by third parties. Despite extensive security measures, our intellectual property may be subject to misappropriation through unauthorized access of our information technology systems, employee theft, or theft by private parties or foreign actors, including those affiliated with or controlled by state actors. Our business and competitive position could be harmed by such events. Our ability to protect our intellectual property rights by legal recourse or otherwise may be limited, particularly in countries where laws or enforcement practices are inadequate or undeveloped. Our inability to enforce our IP rights under any of these circumstances could have an impact on our competitive position and business.

Risks Related to Regulatory Matters

Our reputation, ability to do business and results of operations could be impaired by improper conduct by any of our employees, agents or business partners.

We are subject to regulation under a wide variety of U.S. federal and state and non-U.S. laws, regulations and policies, including laws related to anti-corruption, anti-bribery, export and import compliance, anti-trust and money laundering, due to our global operations. We cannot provide assurance our internal controls will always protect us from the improper conduct of our employees, agents and business partners. Any violations of law or improper conduct could damage our reputation and, depending on the circumstances, subject us to, among other things, civil and criminal penalties, material fines, equitable remedies (including profit disgorgement and injunctions on future conduct), securities litigation and a general loss of investor confidence, any one of which could have a material adverse impact on our business prospects, financial condition, results of operations, cash flows, and the market value of our stock.

Our operations are subject to regulatory risks.

Our U.S. and non-U.S. operations are subject to a number of laws and regulations, including among others, laws related to the environment and health and safety. We have made, and will be required to continue to make, significant expenditures to comply with these laws and regulations. Any violations of applicable laws and regulations could lead to significant penalties, fines or other sanctions. Changes in current laws and regulations could require us to increase our compliance expenditures, cause us to significantly alter or discontinue offering existing products and services or cause us to develop new products and services. Altering current products and services or developing new products and services to comply with changes in the applicable laws and regulations could require significant research and development investments, increase the cost of providing the products and services and adversely affect the demand for our products and services. The U.S. federal government and various states and municipalities have enacted or may enact legislation intended to deny government contracts to U.S. companies that reincorporate outside of the U.S. or have reincorporated outside of the U.S or may take other actions negatively impacting such companies. If we are unable to effectively respond to changes to applicable laws and regulations, interpretations of applicable laws and regulations, or comply with existing and future laws and regulations, our competitive position, results of operations, financial condition and cash flows could be materially adversely impacted.

Global climate change and related regulations could negatively affect our business.

Refrigerants are essential to many of our products and there is concern regarding the global warming potential of such materials. As such, national, regional and international regulations and policies are being implemented to curtail their use. As regulations reduce the use of the current class of widely used refrigerants, our next generation solutions are being adopted globally, with sales in more than 30 countries to date. Our climate commitment requires us to offer a full line of next generation, lower global warming potential products by 2030 without compromising safety or energy efficiency. Additionally, while we met our commitment to reduce energy consumption and the greenhouse gas footprint of our operations by 35 percent by 2020, on a normalized basis, our 2030 commitment requires a much more stringent absolute energy use reduction by 10 percent. While we are committed to pursuing these sustainability objectives, there can be no assurance that our commitments will be successful, that our products will be accepted by the market, that proposed regulation or deregulation will not have a negative competitive impact or that economic returns will match the investment that we are making in new product development.

Concerns regarding global climate change have resulted in the Kigali amendment to the Montreal Protocol, pursuant to which countries have agreed to a scheduled phase down of certain high global warming potential refrigerants. Countries may pass regulations that are even more restrictive than this international accord. Some countries, including the U.S., have not yet ratified the amendment, lowering customer demand for next generation products in these countries. There continues to be a lack of consistent climate legislation, which creates economic and regulatory uncertainty. Such regulatory uncertainty extends to future incentives for energy efficient buildings and vehicles and costs of compliance, which may impact the demand for our products, obsolescence of our products and our results of operations.

Risks Related to Our Business Operations

Commodity shortages and price increases could adversely affect our financial results.

We rely on suppliers to secure commodities, particularly steel and non-ferrous metals, required for the manufacture of our products. A disruption in deliveries from our suppliers or decreased availability of commodities could have an adverse effect on our ability to meet our commitments to customers or increase our operating costs. We believe that available sources of supply will generally be sufficient for our needs for the foreseeable future. Nonetheless, the unavailability of some commodities could have a material adverse impact on our results of operations and cash flows.

Volatility in the prices of these commodities or the impact of inflationary increases could increase the costs of our products and services. We may not be able to pass on these costs to our customers and this could have a material adverse impact on our results of operations and cash flows. Conversely, in the event there is deflation, we may experience pressure from our customers to reduce prices. There can be no assurance that we would be able to reduce our costs (through negotiations with suppliers or other measures) to offset any such price concessions which could adversely impact results of operations and cash flows. While we may use financial derivatives or supplier price locks to hedge against this volatility, by using these instruments we may potentially forego the benefits that might result from favorable fluctuations in prices and could experience lower margins in periods of declining commodity prices. In addition, while hedging activity may minimize near-term volatility of the commodity prices, it would not protect us from long-term commodity price increases.

Some of our purchases are from sole or limited source suppliers for reasons of cost effectiveness, uniqueness of design, or product quality. If these suppliers encounter financial or operating difficulties, we might not be able to quickly establish or qualify replacement sources of supply.

Our business strategy includes acquiring companies, businesses, product lines, plants and assets, entering into joint ventures and making investments that complement our existing businesses. We also occasionally divest businesses that we own. We may not identify acquisition or joint venture candidates or investment opportunities at the same rate as the past. Acquisitions, dispositions, joint ventures and investments that we identify could be unsuccessful or consume significant resources, which could adversely affect our operating results.

We continue to analyze and evaluate the acquisition and divestiture of strategic businesses and product lines, technologies and capabilities, plants and assets, joint ventures and investments with the potential to strengthen our industry position, to enhance our existing set of product and services offerings, to increase productivity and efficiencies, to grow revenues, earnings and cash flow, to help us stay competitive or to reduce costs. There can be no assurance that we will identify or successfully complete transactions with suitable candidates in the future, that we will consummate these transactions at rates similar to the past or that completed transactions will be successful. Strategic transactions may involve significant cash expenditures, debt incurrence, operating losses and expenses that could have a material adverse effect on our business, financial condition, results of operations and cash flows. Such transactions involve numerous other risks, including:

- diversion of management time and attention from daily operations;
- difficulties integrating acquired businesses, technologies and personnel into our business without high costs;
- difficulties in obtaining and verifying the financial statements and other business and other due diligence information of acquired businesses;
- inability to obtain required regulatory approvals and/or required financing on favorable terms;
- potential loss of key employees, key contractual relationships or key customers of either acquired businesses or our business;
- assumption of the liabilities and exposure to unforeseen or undisclosed liabilities of acquired businesses and exposure to regulatory sanctions;
- inheriting internal control deficiencies;
- dilution of interests of holders of our common shares through the issuance of equity securities or equity-linked securities; and
- in the case of joint ventures and other investments, interests that diverge from those of our partners without the ability to direct the management and operations of the joint venture or investment in the manner we believe most appropriate to achieve the expected value.

Any acquisitions, divestitures, joint ventures or investments may ultimately harm our business, financial condition, results of operations and cash flows. There are additional risks related to our Reverse Morris Trust transaction, see "Risks Related to our Reverse Morris Trust Transaction" for more information.

We may be required to recognize impairment charges for our goodwill and other indefinite-lived intangible assets.

At 31 December 2020, the net carrying value of our goodwill and other indefinite-lived intangible assets totaled $5.3 billion and $2.6 billion (2019: $5.1 billion and $2.6 billion, respectively), respectively. In accordance with generally accepted accounting principles, we assess these assets annually during the fourth quarter for impairment or when there is a significant change in events or circumstances that indicate that the fair value of an asset is more likely than not less than the carrying amount of the asset. Significant negative industry or economic trends, disruptions to our business, unexpected significant changes or planned changes in use of the assets, divestitures and sustained market capitalization declines may result in recognition of impairments to goodwill or other indefinite-lived assets. Any charges relating to such impairments could have a material adverse impact on our results of operations in the periods recognized.

Natural disasters, epidemics or other unexpected events may disrupt our operations, adversely affect our results of operations and financial condition, and may not be fully covered by insurance.

The occurrence of one or more unexpected events, including hurricanes, fires, earthquakes, floods and other forms of severe weather, health epidemics or pandemics or other contagious outbreaks or other unexpected events in the U.S. or in other countries in which we operate or are located could adversely affect our operations and financial performance. Natural disasters, power outages, health epidemics or pandemics or other contagious outbreaks or other unexpected events could result in physical damage to and complete or partial closure of one or more of our plants, temporary or long-term disruption of our operations by causing business interruptions or by impacting the availability and cost of materials needed for manufacturing. Existing insurance arrangements may not provide full protection for the costs that may arise from such events, particularly if such events are catastrophic in nature or occur in combination. The occurrence of any of these events could increase our insurance and other operating costs or harm our sales in affected areas.

Our business may be adversely affected by work stoppages, union negotiations, labor disputes and other matters associated with our labor force.

Certain of our employees are covered by collective bargaining agreements or works councils. We experience from time to time work stoppages, union negotiations, labor disputes and other matters associated with our labor force and some of these events could result in significant increases in our cost of labor, impact our productivity or damage our reputation. Additionally, a work stoppage at one of our suppliers could materially and adversely affect our operations if an alternative source of supply were not readily available. Stoppages by employees of our customers could also result in reduced demand for our products.

Risks Relating to Tax Matters

Changes in tax or other laws, regulations or treaties, changes in our status under U.S. or non-U.S. laws or adverse determinations by taxing or other governmental authorities could increase our tax burden or otherwise affect our financial condition or operating results, as well as subject our shareholders to additional taxes.

The realization of any tax benefit related to our operations and corporate structure could be impacted by changes in tax or other laws, treaties or regulations or the interpretation or enforcement thereof by the U.S. or non-U.S. tax or other governmental authorities. Enacted comprehensive tax reform legislation in December 2017 known as the Tax Cuts and Jobs Act (the Act) made broad and complex changes to the U.S. tax code. As part of the migration from a worldwide system of taxation to a modified territorial system for corporations, the Act imposed a transition tax on certain unrepatriated earnings of non-U.S. subsidiaries and an additional annual U.S. tax on the earnings of certain non-U.S. subsidiaries. The Act also imposed new and substantial limitations on, and/or the elimination of, certain tax deductions (including interest) and credits (including foreign tax credits) that could adversely impact our effective tax rate or operating cash flows.

Notwithstanding this change in U.S. tax law, we continue to monitor for other tax changes, U.S. and non-U.S. related, which can also adversely impact our overall tax burden. From time to time, proposals have been made and/or legislation has been introduced to change the tax laws, regulations or interpretations thereof of various jurisdictions or limit tax treaty benefits that if enacted or implemented could materially increase our tax burden and/or effective tax rate and could have a material adverse impact on our financial condition and results of operations. Moreover, the Organisation for Economic Co-operation and Development has released proposals to create an agreed set of international rules for fighting base erosion and profit shifting, including Pillar One and Pillar Two, such that tax laws in countries in which we do business could change on a prospective or retroactive basis, and any such changes could adversely impact us. Finally, the European Commission has been very active in investigating whether various tax regimes or private tax rulings provided by a country to particular taxpayers may constitute State Aid. We cannot predict the outcome of any of these potential changes or investigations in any of the jurisdictions, but if any of the above occurs and impacts us, this could materially increase our tax burden and/or effective tax rate and could have a material adverse impact on our financial condition and results of operations.

While we monitor proposals and other developments that would materially impact our tax burden and/or effective tax rate and investigate our options, we could still be subject to increased taxation on a going forward basis no matter what action we undertake if certain legislative proposals or regulatory changes are enacted, certain tax treaties are amended and/or our interpretation of applicable tax or other laws is challenged and determined to be incorrect. In particular, any changes and/or differing interpretations of applicable tax law that have the effect of disregarding the shareholders' decision to reorganize in Ireland, limiting our ability to take advantage of tax treaties between jurisdictions, modifying or eliminating the deductibility of various currently deductible payments, or increasing the tax burden of operating or being resident in a particular country could subject us to increased taxation.

In addition, tax authorities periodically review tax returns filed by us and can raise issues regarding our filing positions, timing and amount of income or deductions, and the allocation of income among the jurisdictions in which we operate. These examinations on their own, or any subsequent litigation related to the examinations, may result in additional taxes or penalties against us. If the ultimate results of these audits differ from our original or adjusted estimates, they could have a material impact on our tax provision.

Risks Related to our Reverse Morris Trust Transaction

On 29 February 2020 (the Distribution Date), we completed our Reverse Morris Trust transaction (the Transaction) with Gardner Denver Holdings, Inc. (Gardner Denver, which changed its name to Ingersoll Rand Inc. after the Transaction) whereby we distributed Ingersoll-Rand U.S. HoldCo, Inc., which contained our former Industrial segment (Ingersoll Rand Industrial), through a pro rata distribution (the Distribution) to our shareholders of record as of 24 February 2020. Ingersoll Rand Industrial then merged with a wholly-owned subsidiary of Gardner Denver. Upon close of the Transaction, our existing shareholders received approximately 50.1% of the shares of Gardner Denver common stock on a fully-diluted basis and Gardner Denver stockholders retained approximately 49.9% of the shares of Gardner Denver on a fully diluted basis. As a result, our shareholders received 0.8824 shares of Gardner Denver common stock with respect to each share of our stock owned as of 24 February 2020. In connection with the Transaction, Ingersoll-Rand Services Company, an affiliate of Ingersoll Rand Industrial, borrowed an aggregate principal amount of $1.9 billion under a senior secured first lien term loan facility (the Term Loan), the proceeds of which were transferred to one of our wholly-owned subsidiaries. The obligations under the Term Loan were retained by Ingersoll-Rand Services Company, which following the Transaction is a wholly-owned subsidiary of Ingersoll Rand Inc. Following the Transaction, our Company was renamed Trane Technologies plc and trades under the symbol "TT" on the NYSE.

If the Distribution is determined to be taxable for Irish tax purposes, significant Irish tax liabilities may arise for our shareholders.

We received an opinion from Irish Revenue regarding certain tax matters associated with the Distribution, as well as a legal opinion from our Irish counsel Arthur Cox, regarding certain Irish tax consequences for shareholders of the Distribution. For our shareholders that are not resident or ordinarily resident in Ireland for Irish tax purposes and that do not hold their shares in connection with a trade or business carried on by such shareholders through an Irish branch or agency, we consider, based on both opinions taken together, that no adverse Irish tax consequences for such shareholders should have arisen. These opinions relied on certain facts and assumptions and certain representations. Notwithstanding the opinion from Irish Revenue, Irish Revenue could ultimately determine on audit that the Distribution is taxable for Irish tax purposes, for example, if it determines that any of these facts, assumptions or representations are not correct or have been violated. A legal opinion represents the tax adviser's best legal judgment and is not binding on Irish Revenue or the courts and Irish Revenue or the courts may not agree with the legal opinion. In addition, the legal opinion is based on current law and cannot be relied upon if current law changes with retroactive effect. If the Distribution ultimately is determined to be taxable for Irish tax purposes, certain of our shareholders and we could have significant Irish tax liabilities as a result of the Distribution, and there could be a material adverse impact on our business, financial condition, results of operations and cash flows in future reporting periods.

If the Distribution together with certain related transactions do not qualify as tax-free under Sections 355 and 368(a) of the Code, including as a result of subsequent acquisitions of stock of the Company or Ingersoll Rand Inc., then the Company and our shareholders may be required to pay substantial U.S. federal income taxes, and Ingersoll Rand Inc. may be obligated to indemnify the Company for such taxes imposed on the Company.

We received an opinion from our U.S. tax counsel Paul, Weiss, Rifkind, Wharton & Garrison LLP (Paul Weiss) substantially to the effect that, for U.S. federal income tax purposes, the Distribution together with certain related transactions undertaken in anticipation of the Distribution and taking into account the merger of Ingersoll Rand Industrial with the wholly-owned subsidiary of Gardner Denver will qualify as a tax-free transaction under Sections 368(a), 361 and 355 of the Code, with the result that we and our shareholders will not recognize any gain or loss for U.S. federal income tax purposes as a result of the spin-off. The opinion of our counsel was based on, among other things, certain representations and assumptions as to factual matters made by Gardner Denver, Ingersoll Rand Industrial and the Company. The failure of any factual representation or assumption to be true, correct and complete in all material respects could adversely affect the validity of the opinion of counsel. An opinion of counsel represents counsel's best legal judgment, is not binding on the Internal Revenue Service (IRS) or the courts, and the IRS or the courts may not agree with the opinion. In addition, the opinion will be based on current law, and cannot be relied upon if current law changes with retroactive effect. If the Distribution, and/or related internal transactions in anticipation of the Distribution ultimately are determined to be taxable, we could incur significant U.S. federal income tax liabilities, which could cause a material adverse impact on our business, financial condition, results of operations and cash flows in future reporting periods, although if this determination resulted from certain actions taken by Ingersoll Rand Industrial or Ingersoll Rand Inc., Ingersoll Rand Inc. would be required to bear the cost of any resultant tax liability pursuant to the terms of the Tax Matters Agreement.

The Distribution will be taxable to the Company pursuant to Section 355(e) of the Code if there is a 50% or greater change in ownership of either the Company or Ingersoll Rand Industrial, directly or indirectly (including through such a change in ownership of Ingersoll Rand Inc.), as part of a plan or series of related transactions that include the Distribution. A Section 355(e) change of ownership would not make the Distribution taxable to our shareholders, but instead may result in corporate-level taxable gain to certain of our subsidiaries. Because our shareholders will collectively be treated as owning more than 50% of the Ingersoll Rand Inc. common stock following the merger, the merger alone should not cause the Distribution to be taxable to our subsidiaries under Section 355(e). However, Section 355(e) might apply if other acquisitions of stock of the Company before or after the merger, or of Ingersoll Rand Inc. before or after the merger, are considered to be part of a plan or series of related transactions that include the Distribution together with certain related transactions. If Section 355(e) applied, certain of our subsidiaries might recognize a very substantial amount of taxable gain, although if this applied as a result of certain actions taken by Ingersoll Rand Industrial, Ingersoll Rand Inc. or certain specified Ingersoll Rand Inc. stockholders, Ingersoll Rand Inc. would be required to bear the cost of any resultant tax liability under Section 355(e) pursuant to the terms of the Tax Matters Agreement.

If the merger does not qualify as a tax-free reorganization under Section 368(a) of the Code, our shareholders may be required to pay substantial U.S. federal income taxes.

We have received an opinion from Paul Weiss, and Ingersoll Rand Inc. has received an opinion from their counsel Simpson Thacher & Bartlett LLP, substantially to the effect that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Code with the result that U.S. holders of Ingersoll Rand Industrial common stock who received Gardner Denver common stock in the merger will not recognize any gain or loss for U.S. federal income tax purposes (except with respect to cash received in lieu of fractional shares of Gardner Denver common stock). These opinions were based upon, among other things, certain representations and assumptions as to factual matters made by Ingersoll Rand Inc., the Company, Ingersoll Rand Industrial and the merger subsidiary used by Ingersoll Rand Inc. The failure of any factual representation or assumption to be true, correct and complete in all material respects could adversely affect the validity of the opinions. An opinion of counsel represents counsel's best legal judgment, is not binding on the IRS or the courts, and the IRS or the courts may not agree with the opinion. In addition, the opinions will be based on current law, and cannot be relied upon if current law changes with retroactive effect. If the merger were taxable, U.S. holders of Ingersoll Rand Industrial would be considered to have made a taxable sale of their Ingersoll Rand Industrial common stock to Ingersoll Rand Inc., and such U.S. holders of Ingersoll Rand Industrial would generally recognize taxable gain or loss on their receipt of Ingersoll Rand Inc. common stock in the merger.

Risks Related to Our Irish Domicile

Irish law differs from the laws in effect in the United States and may afford less protection to holders of our securities.

The United States currently does not have a treaty with Ireland providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. As such, there is some uncertainty as to whether the courts of Ireland would recognize or enforce judgments of U.S. courts obtained against us or our directors or officers based on U.S. federal or state civil liability laws, including the civil liability provisions of the U.S. federal or state securities laws, or hear actions against us or those persons based on those laws.

As an Irish company, we are governed by the Irish Companies Act, which differs in some material respects from laws generally applicable to U.S. corporations and shareholders, including, among others, differences relating to interested director and officer transactions, indemnification of directors and shareholder lawsuits. Likewise, the duties of directors and officers of an Irish company generally are owed to the company only. Shareholders of Irish companies generally do not have a personal right of action against directors or officers of the company and may exercise such rights of action on behalf of the company only in limited circumstances. Accordingly, holders of our securities may have more difficulty protecting their interests than would holders of securities of a corporation incorporated in a jurisdiction of the United States. In addition, Irish law does not allow for any form of legal proceedings directly equivalent to the class action available in the United States.

Irish law allows shareholders to authorize share capital which then can be issued by a board of directors without shareholder approval. Also, subject to specified exceptions, Irish law grants statutory pre-emptive rights to existing shareholders to subscribe for new issuances of shares for cash, but allows shareholders to authorize the waiver of the statutory pre-emptive rights with respect to any particular allotment of shares. Under Irish law, we must have authority from our shareholders to issue any shares, including shares that are part of the Company's authorized but unissued share capital. In addition, unless otherwise authorized by its shareholders, when an Irish company issues shares for cash to new shareholders, it is required first to offer those shares on the same or more favorable terms to existing shareholders on a pro-rata basis. If we are unable to obtain these authorizations from our shareholders, or are otherwise limited by the terms of our authorizations, our ability to issue shares or otherwise raise capital could be adversely affected.

Dividends received by our shareholders may be subject to Irish dividend withholding tax.

In certain circumstances, we are required to deduct Irish dividend withholding tax (currently at the rate of 25%) from dividends paid to our shareholders. In the majority of cases, shareholders resident in the United States will not be subject to Irish withholding tax, and shareholders resident in a number of other countries will not be subject to Irish withholding tax provided that they complete certain Irish dividend withholding tax forms. However, some shareholders may be subject to withholding tax, which could have an adverse impact on the price of our shares.

Dividends received by our shareholders could be subject to Irish income tax.

Dividends paid in respect of our shares will generally not be subject to Irish income tax where the beneficial owner of these dividends is exempt from dividend withholding tax, unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Trane Technologies plc.

Our shareholders who receive their dividends subject to Irish dividend withholding tax will generally have no further liability to Irish income tax on the dividends unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Trane Technologies plc.

Political Donations

No political contributions that require disclosure under the Electoral Act, 1997 (as amended) were made during the financial year 2020.

Future Developments

The Group is very focused on achieving margin expansion through pricing and sustained productivity. We aspire to and are working toward growing through customer-driven innovation. Successful execution of these critical focus areas will allow us to achieve our mission of being a world leader in creating comfortable, sustainable and efficient environments.

Subsidiary Companies and Associates

A list of the principal subsidiary and associated undertakings is included in Note 40 to Consolidated Financial Statements.

Branches

The Parent Company does not operate any branches outside of the State**.**

Accounting records

The measures that the directors have taken to secure compliance with the requirements of Sections 281 to 285 of the Companies Act 2014 with regards to the keeping of accounting records are the employment of appropriately qualified accounting personnel and the maintenance of computerized accounting systems. These accounting records are kept at the registered office of the Company.

Dividends

The gross dividends paid in 2020 to ordinary shareholders and non-controlling interests were $526.0 million (2019: $525.3 million).

Acquisition and cancellation of shares

Shares repurchased and cancelled

During the year ended 31 December 2020, the Company repurchased 1,754,057 ordinary shares (2019: 6,401,381), or 0.66% of the ordinary shares in issue (2019: 2.43%) at an average price of $142.55 per share (2019:$117.18). These shares with a nominal value of $1.8 million were cancelled, giving rise to a capital redemption reserve of an equivalent amount as required by Section 106 (4) (a) of the Companies Act 2014. The aggregate consideration paid was $250 million (2019: $750 million) which is reflected as a reduction in the profit and loss account within *Total equity*.

Treasury shares held by the Company

At 31 December 2020, the total number of treasury shares held directly by the Company was 24,495,509 (2019: 24,495,509); the nominal value of these shares was $24,495,509 (2019: $24,495,509). During the year ended 31 December 2020 the Company did not acquire any treasury shares under the repurchase program. The total accumulated treasury shares acquired represent 9.3% (2019: 9.3%) of the ordinary shares in issue at 31 December 2020.

Own shares held by a subsidiary

At 31 December 2020, a subsidiary of the Company held 5,353 (2019: 4,388) ordinary shares of $1.00 each with an aggregate nominal value of $5,353 (2019: $4,388) in trust for a deferred compensation plan.

Going Concern

The Board has formed a judgment at the time of approving the financial statements that there is a reasonable expectation that the Group and the Company have adequate resources to continue in operational existence for at least the next 12 month period extending from the time of approving the financial statements. In arriving at this conclusion, the Board has taken account of current and anticipated uncertainties driven by the COVID-19 pandemic in its going concern assessment. These uncertainties include, but are not limited to, customer demand, customers' and suppliers' financial condition, any temporary closure of production facilities, levels of liquidity, the availability of the committed borrowing facilities and our ongoing compliance with debt covenants. These uncertainties could adversely affect our operations and financial performance through supply chain disruptions, delays in payments received, and the availability and cost of materials.

However, despite the challenges brought on by COVID-19, all production facilities remain open and the Group continues to sell, install and service its products. During the second half of 2020, the Group did not experience any major delays in its supply chain and continued to focus on health and safety precautions to protect its employees and customers. In addition, during the fourth quarter of 2020, the Group completed several restorative actions including the reinstatement of annual merit-based salary increases and resuming all aspects of our balanced capital allocation strategy which included acquisitions and share repurchases. The Group continues to expect that existing available cash at bank and in hand, the cash generated by our operations, our committed borrowing facilities, as well as our expected ability to access the capital and debt markets will be sufficient to fund the Group's operating and capital needs for at least the next twelve month period extending from the time of approving the financial statements and thereafter for the foreseeable future. To its knowledge, the Board reasonably believes that these uncertainties would not have a material impact on our ability to continue as a going concern as of the approval date. For this reason, the going concern basis continues to be adopted in the preparation of the Consolidated Financial Statements and the Parent Company Financial Statements. The Board of Directors has not identified material uncertainties relating to events or conditions that may cast significant doubt on the ability of the Group or the Company to continue as going concerns.

AGM

The Annual General Meeting of the Company will take place at Trane Technologies plc, 800-C Beaty Street, Davidson, NC 28036 on Thursday, 3 June 2021. Shareholders in Ireland may participate in the Annual General Meeting remotely on 3 June 2021 at 1:00 p.m. (Dublin time) telephonically at the Arthur Cox Building, Ten Earlsfort Terrace, Dublin 2, D02 T380, Ireland. See "Information Concerning Voting and Solicitation" of the proxy statement for further information on participating in the Annual General Meeting. The notice of meeting and a description of the business to be transacted is available on the Company's website at www.tranetechnologies.com.

Directors and Secretaries

The directors and secretaries of the Company as of 31 December 2020 are listed in the table below and, except as noted, have served from the period of 1 January 2020 through 31 December 2020 and through the date of this report.

Directors

Kirk E. Arnold
Ann C. Berzin
John Bruton
Jared L. Cohon
Gary D. Forsee
Linda P. Hudson
Michael W. Lamach
Myles P. Lee
April Miller Boise (elected as of 8 December 2020)
Karen B. Peetz
John P. Surma
Richard J. Swift
Tony White

Secretaries

Evan M. Turtz (Company Secretary)
Sara Walden Brown (Assistant Secretary)
Computershare Inc. (Assistant Secretary)

Directors' and Secretaries' Interests in Shares

No director, the company secretary or any member of their immediate families had any interest in shares or debentures of any subsidiary. The beneficial interests, including the interests of spouses and minor children, of the directors and secretaries in office at 31 December 2020 and 2019 in the ordinary share capital of Trane Technologies plc pursuant to section 329 of the Companies Act 2014, are presented in the table below:

	At 31 December 2020		At 1 January 2020	
Directors	Shares	Options	Shares	Options
Kirk E. Arnold	1,805	—	938	—
Ann C. Berzin	29,568	—	28,118	—
John Bruton	9,536	—	8,669	—
Jared L. Cohon	20,867	—	20,000	—
Gary D. Forsee	28,385	—	27,518	—
Linda P. Hudson	4,844	—	3,977	—
Michael W. Lamach	180,336	553,298	183,496	495,534
Myles P. Lee	5,610	—	3,743	—
April Miller Boise	—	—	—	—
Karen B. Peetz	2,035	—	1,168	—
John P. Surma	9,182	—	8,315	—
Richard J. Swift	—	—	3,487	—
Tony L. White	27,842	—	26,975	—
Secretaries				
Evan M. Turtz	7,610	15,096	6,809	20,359
Sara Walden Brown	1,275	18,955	1,054	6,895
Computershare Inc.	—	—	—	—

Non-Financial Statements

The European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 (S.I. 360/2017) (as amended) (the "**2017 Regulations**") require us to disclose certain non-financial information in our Directors' Report. For the purposes of the 2017 Regulations, the sections entitled *Description of Business Model*, *Environmental Matters*, *Employee Matters*, *Social Matters*, *Human Rights* and *Anti-Corruption and Anti-Bribery* set out on pages 5 to 6 of the U.S. 2020 Annual Report are incorporated by reference into this Directors' Report.

Pages 23 to 32 of this Directors' Report provides the Principal Risks for the Group including risks that pertain to the areas of environmental matters, social and employee matters, respect for human rights, and anti-bribery and anti-corruption. In order to manage and mitigate risks in these areas, we conduct materiality and risk assessments, develop and maintain policies and provide training and certification for our employees and business partners. We have systematic processes in place to govern these relationships, ensuring our suppliers share our values and adhere to our standards of business ethics, health and safety, and environmental and social responsibility.

The Board of Directors has oversight responsibility of the processes established to report and monitor systems for material risks applicable to the Group. The Board of Directors focuses on the Group's general risk management strategy and the most significant risks facing the Group and ensures that appropriate risk mitigation strategies are implemented by management. We have appointed the Chief Financial Officer as our Chief Risk Officer and, in that role, the Chief Risk Officer periodically reports on risk management policies and practices to the relevant board committee or to the full Board so that decisions can be made as to any required changes in our risk management and mitigation strategies or in the Board's oversight of these. We also have an Enterprise Risk Management Committee that assists the Board of Directors, our Chief Financial Officer and other members of our executive leadership team in their oversight of strategic, operational and financial risks.

Directors' Compliance Statement

The Directors acknowledge that they are responsible for securing compliance by the Company with its relevant obligations as defined in the Companies Act 2014 (the 'Relevant Obligations').

The Directors further confirm that a Compliance Policy Statement has been drawn up and that appropriate arrangements and structures have been put in place which, in the Directors' opinion, are designed to secure material compliance with the Company's Relevant Obligations. For the year ended 31 December 2020, the Directors, with the assistance of the Legal and Finance Group, have conducted a review of the arrangements and structures in place. In discharging their responsibilities under Section 225 of the Companies Act 2014, the Directors relied on the advice of persons who the Directors believe have the requisite knowledge and experience to advise the Company on compliance with its Relevant Obligations.

Disclosure of Information to the Auditor

In accordance with the provisions of section 330 of the Companies Act 2014, each of the persons who are Directors at the date of approval of this report confirms that:

- So far as the Director is aware, there is no relevant audit information (as defined in the Companies Act 2014) of which the statutory auditor is unaware; and
- The Director has taken all the steps that he/she ought to have taken as a Director in order to make himself/herself aware of any relevant audit information (as defined) and to ensure that the statutory auditor is aware of such information.

Audit Committee

In accordance with Section 167 of the Companies Act 2014, the Company has an established audit committee, which meets the requirements of the Companies Act.

Statutory Auditors

The statutory auditors, PricewaterhouseCoopers, have indicated their willingness to continue in office, and a resolution that they be re-appointed will be proposed at the Annual General meeting.

Approved by the Board of Directors on 7 April 2021 and signed on its behalf by:

/s/ Myles P. Lee	/s/ John P. Surma
Myles P. Lee	John P. Surma
Director	Director

STATEMENT OF DIRECTORS' RESPONSIBILITIES

The directors are responsible for preparing the directors' report and the financial statements in accordance with Irish law.

Irish law requires the directors to prepare financial statements for each financial year giving a true and fair view of the group's and company's assets, liabilities and financial position as at the end of the financial year and of the profit or loss of the group for the financial year. Under that law, the Directors have prepared the consolidated financial statements in accordance with U.S. accounting standards, as defined in Section 279(1) of the Companies Act 2014, to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of the Companies Act or of any regulations made thereunder and the Parent Company financial statements in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council and Irish law) including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the United Kingdom and the Republic of Ireland" (FRS 102").

Under Irish law, the directors shall not approve the financial statements unless they are satisfied that they give a true and fair view of the Group's and Company's assets, liabilities and financial position as at the end of the financial year and the profit or loss of the Group for the financial year.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state that the consolidated financial statements of Trane Technologies plc and its subsidiaries (the Group) comply with accounting principles generally accepted in the United States of America (U.S. GAAP) to the extent that it does not contravene Irish Company Law and that the stand alone entity balance sheet of Trane Technologies plc (the Company) complies with accounting standards issued by the Financial Reporting Council and Irish law subject to any material departures from those standards being disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to:

- correctly record and explain the transactions of the company;
- enable, at any time, the assets, liabilities, financial position and profit or loss of the company to be determined with reasonable accuracy; and
- enable the directors to ensure that the financial statements comply with the Companies Act 2014 and enable those financial statements to be audited.

The directors are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website (www.tranetechnologies.com). Legislation in Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Independent auditors' report to the members of Trane Technologies plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Trane Technologies plc's consolidated financial statements and parent company financial statements (the "financial statements") give a true and fair view of the group's and the parent company's assets, liabilities and financial position as at 31 December 2020 and of the group's profit and cash flows for the year then ended;
- the consolidated financial statements have been properly prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"), as defined in Section 279 of the Companies Act 2014, to the extent that the use of those principles in the preparation of consolidated financial statements does not contravene any provision of Part 6 of the Companies Act 2014;
- the parent company financial statements have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council of the UK, including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" and Irish law); and
- the financial statements have been properly prepared in accordance with the requirements of the Companies Act 2014.

We have audited the financial statements, included within the Directors' Report and Financial Statements (the "Annual Report"), which comprise:

- the Consolidated Balance Sheet as at 31 December 2020;
- the Consolidated Profit and Loss Account for the year then ended;
- the Consolidated Statement of Comprehensive Income for the year then ended;
- the Consolidated Statement of Cash Flows for the year then ended;
- the Consolidated Statement of Changes in Equity for the year then ended;
- the Parent Company Balance Sheet as at 31 December 2020;
- the Parent Company Statement of Changes in Equity for the year then ended;
- the Parent Company Statement of Comprehensive Income for the year then ended; and
- the notes to the financial statements, which include a description of the significant accounting policies.

Basis for opinion

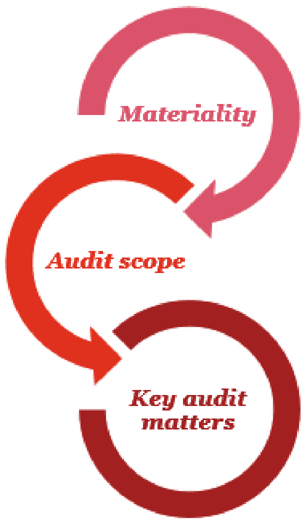
We conducted our audit in accordance with International Standards on Auditing (Ireland) ("ISAs (Ireland)") and applicable law. Our responsibilities under ISAs (Ireland) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in Ireland, which includes IAASA's Ethical Standard as applicable to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Our audit approach

Overview



Materiality

- $64 million (2019: $90 million) - consolidated financial statements
- Based on c. 5% of profit before tax.
- $173 million (2019: $142 million) - parent company financial statements. For group audit purposes, the lower consolidated financial statements materiality of $64 million was applied to all balances that do not eliminate in the consolidated financial statements.
- Based on c. 0.5% of net assets.

Audit scope

- We conducted a full scope audit at one component at which the Group has significant operations.
- Specified audit procedures were performed at three additional components.
- Additionally, certain centralized Group functions, including treasury, taxation, equity and stock compensation, goodwill and intangible assets, pension and post-retirement benefits, litigation, and claims and administrative proceedings were subject to full scope audit procedures.
- Overall, through one full scope audit and three specified procedures audits, we obtained audit coverage in excess of 75% of the individual line items within the Consolidated Profit and Loss Account and Consolidated Balance Sheet.

Key audit matters

- Tax-free determination of the Reverse Morris Trust transaction.
- Reassignment of goodwill to newly designated reporting units.

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits we also addressed the risk of management override of internal controls, including evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

Key audit matter	*How our audit addressed the key audit matter*
Tax-free determination of the Reverse Morris Trust transaction As described in Notes 2 - Completion of the Reverse Morris Trust transaction and 13 - Acquisitions and Divestitures to the consolidated financial statements, on February 29, 2020 the Group completed a Reverse Morris Trust transaction ('the transaction') with Gardner Denver Holdings, Inc. ('Gardner Denver') whereby the Group distributed Ingersoll-Rand U.S. HoldCo, Inc., which contained the Group's former Industrial segment ('Ingersoll Rand Industrial'), through a pro rata distribution to shareholders of record as of February 24, 2020. Ingersoll Rand Industrial then merged into a wholly-owned subsidiary of Gardner Denver. As disclosed in Note 2 to Financial Statements, the transaction was determined by management to qualify for tax-free treatment under certain sections of the US Internal Revenue Code. The determination of the transaction as tax-free requires management to make significant judgements about the interpretation of tax laws and regulations. Management obtained relevant third party specialist opinions. Management's determination may be the subject of periodic audits by U.S. tax authorities. Unfavourable audit findings and tax rulings could have a material adverse effect on the Group's financial position, results of operations or cash flows. We determined the tax-free determination of the Reverse Morris Trust transaction to be a key audit matter as there was significant judgement exercised by management regarding the transaction and application of U.S. tax laws and regulations in determining that the transaction would qualify as tax-free.	We assessed the design and tested the operating effectiveness of internal controls relating to management's process in determining the US tax treatment of the transaction. We tested the Group's process for determining that the transaction qualified for tax-free status under certain sections of the US Internal Revenue Code, including identifying the relevant tax laws and obtaining the opinion of the Group's third party advisors. With the assistance of PwC tax specialists, we evaluated the reasonableness of management's interpretation of the US tax laws and regulations and determinations reached for the tax treatment of each component of the transaction to qualify as tax free. We also evaluated management's representations to the third party specialist on matters that were significant to the determination of the tax free status of the transaction and tested the information used by management in determining those representations. We determined that management's conclusion that the transaction qualified for tax-free status under certain sections of the US Internal Revenue Code was reasonable.

Key audit matter	How our audit addressed the key audit matter
Reassignment of goodwill to newly designated reporting units As described in Note 3 j - Summary of significant accounting policies and Statement of compliance and Note 16 - Intangible Assets to the consolidated financial statements, in connection with the Group's new organizational model and business segment structure, management reassigned goodwill among newly designated reporting units using a relative fair value approach. Management determined that because quoted market prices are not available for the Group's reporting units, the calculation of their estimated fair value should be determined using the guideline public company method, specifically a market-adjusted multiple of earnings and revenues (a 'market approach'). The earnings and revenues multiple approach reflects the market's expectations for future growth and risk, with adjustments to account for differences between the guideline publicly traded companies and the Group's reporting units. Management engaged valuation specialists to identify the range of multiples. We determined the reassignment of goodwill to the newly designated reporting units to be a key audit matter as there was significant judgement exercised by management in developing the relative fair value of the reporting units including obtaining the support of third party specialists.	We assessed the design and tested the operating effectiveness of internal controls relating to management's process to reassign goodwill to the newly designated reporting units. We tested management's process for developing the fair value estimate and evaluated the reasonableness of the market approach adopted. We evaluated the reasonableness of the significant assumptions used by management related to the revenues used in the market approach. With the assistance of PwC specialists with specialized skill and knowledge, we • compared the earnings and revenue multiples used by management to peer groups, • evaluated whether the multiples are within the range identified by the valuation specialists engaged by the Company, • evaluated the reasonableness of the significant assumptions used by management related to the multiples of earnings used in the market approach, and • tested the completeness and accuracy of underlying data used in management's model. We determined management's allocation and methodology associated with the reassignment of goodwill to the newly designated reporting units to be appropriate.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

The Group has three regional operating segments, namely Americas, EMEA and APAC. Each operating segment comprises a number of business units, primarily across Commercial Heating, Ventilation and Air conditioning (HVAC), Residential HVAC and Transport. Each operating segment and business unit provides products and solutions through various brands resulting in a number of management reporting units, identified by us as components. The Consolidated financial statements are a consolidation of the components.

In determining our audit scope, we considered the nature and extent of audit work that needed to be performed by us, as the Irish Group engagement team, the PwC US global engagement team, or other component auditors within other PwC network firms.

Overall, through one full scope audit and three specified procedures audits, we obtained audit coverage in excess of 75% of the individual line items within the Consolidated Profit and Loss Account and Consolidated Balance Sheet. Materiality levels and instructions were issued to each component auditor. In addition to the audit report from each of the component auditors, we reviewed detailed memoranda on work performed and relevant findings which supplemented our understanding of the component, its results and the audit findings. For the full scope component we performed a review of selected workpapers and participated in video calls with the PwC US component team.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Consolidated financial statements	***Parent company financial statements***
Overall materiality	$64 million (2019: $90million).	$173 million (2019: $142 million).
How we determined it	C. 5% of profit before tax.	C. 0.5% of net assets.
Rationale for benchmark applied	The Group is profit oriented and profit before tax is one of the key metrics used to assess its performance.	The Parent Company is a holding company. Consequently, we consider that net assets is the most relevant measure to reflect the nature of its activities and transactions.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above $4 million (group audit) (2019: $5 million) and $8.6 million (parent company audit) (2019: $7 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the group and parent company's ability to continue to adopt the going concern basis of accounting included:

- obtaining management's going concern assessment for a period of twelve months from the date on which the financial statements are authorised for issue;
- agreeing the cash flow projections underlying management's going concern assessment to board approved forecasts, assessing how these forecasts are compiled, and evaluating their key assumptions;
- considering the Group's and the Company's liquidity and available financial resources including the cash at bank and in hand disclosed in note 22 and Debt and credit facilities disclosed in note 26;
- evaluation of management's assessment of the likely impact which COVID-19 may have through the going concern assessment period; and
- reviewing the going concern disclosures included in the directors report and financial statements in order to assess whether the disclosures were appropriate and in accordance with reporting standards.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's or the parent company's ability to continue as a going concern for a period of at least twelve months from the date on which the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's or the parent company's ability to continue as a going concern.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Directors' Report and Financial Statements other than the financial statements and our auditors’ report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Directors’ Report, we also considered whether the disclosures required by the Companies Act 2014 (excluding the information included in the “Non Financial Statement” as defined by that Act on which we are not required to report) have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, ISAs (Ireland) and the Companies Act 2014 require us to also report certain opinions and matters as described below:

- In our opinion, based on the work undertaken in the course of the audit, the information given in the Directors’ Report (excluding the information included in the “Non Financial Statement” on which we are not required to report) for the year ended 31 December 2020 is consistent with the financial statements and has been prepared in accordance with the applicable legal requirements.
- Based on our knowledge and understanding of the group and parent company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Directors’ Report (excluding the information included in the “Non Financial Statement” on which we are not required to report).

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors’ Responsibilities set out on page [26], the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view.

The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group’s and the parent company’s ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditors’ responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors’ report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (Ireland) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the IAASA website at:

https://www.iaasa.ie/getmedia/b2389013-1cf6-458b-9b8f-a98202dc9c3a/Description_of_auditors_responsibilities_for_audit.pdf

This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with section 391 of the Companies Act 2014 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2014 opinions on other matters

- We have obtained all the information and explanations which we consider necessary for the purposes of our audit.
- In our opinion the accounting records of the parent company were sufficient to permit the parent company financial statements to be readily and properly audited.
- The Parent Company Balance Sheet is in agreement with the accounting records.

Other exception reporting

Directors' remuneration and transactions

Under the Companies Act 2014 we are required to report to you if, in our opinion, the disclosures of directors' remuneration and transactions specified by sections 305 to 312 of that Act have not been made. We have no exceptions to report arising from this responsibility.

Prior financial year Non Financial Statement

We are required to report if the company has not provided the information required by Regulation 5(2) to 5(7) of the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 in respect of the prior financial year. We have nothing to report arising from this responsibility.

/s/ Kevin Egan

Kevin Egan
for and on behalf of PricewaterhouseCoopers
Chartered Accountants and Statutory Audit Firm
Dublin

7 April 2021

Trane Technologies plc
Consolidated Profit and Loss Account
For the financial year ended 31 December 2020

	Note		2020 $m		2019 $m
Turnover	4/6		12,454.7		13,075.9
Cost of sales			(8,651.3)		(9,085.5)
Gross profit			3,803.4		3,990.4
Distribution costs			(1,062.8)		(1,163.7)
Administrative expenses			(1,207.8)		(1,156.6)
Other operating expense	5		(0.4)		(29.0)
Operating profit	9		1,532.4		1,641.1
Interest receivable and similar income	7		4.5		0.6
Interest payable and similar charges	8		(248.7)		(242.8)
Profit on ordinary activities before taxation			1,288.2		1,398.9
Tax on profit on ordinary activities	12		(296.8)		(238.6)
Profit on ordinary activities after taxation			991.4		1,160.3
Discontinued operations, net of taxation	13		(121.4)		268.2
Profit for the financial year			870.0		1,428.5
Profit attributable to:					
Equity holders of Trane Technologies plc			854.9		1,410.9
Non-controlling interests	36		15.1		17.6
Profit for the financial year			870.0		1,428.5
Earnings (loss) per share attributable to Trane Technologies plc ordinary shareholders:					
Basic:	15				
Continuing operations		$	4.07	$	4.74
Discontinued operations			(0.51)		1.10
Net Earnings		$	3.56	$	5.84
Diluted:	15				
Continuing operations		$	4.02	$	4.69
Discontinued operations			(0.50)		1.08
Net Earnings		$	3.52	$	5.77

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

Trane Technologies plc
Consolidated Statement of Comprehensive Income
For the financial year ended 31 December 2020

	Note	2020 $m	2019 $m
Profit for the financial year		870.0	1,428.5
Other comprehensive income (loss):			
Currency translation		261.5	(37.1)
Cash flow hedges:			
Unrealized net gains (losses) arising during period		3.3	(2.7)
Net gains reclassified into earnings		1.9	0.7
Tax (expense) benefit		—	0.9
Total cash flow hedges, net of tax	35	5.2	(1.1)
Pension and Post-retirement benefits other than pensions (OPEB) adjustments:			
Prior service costs for the period		(1.9)	(5.7)
Net actuarial gains (losses) for the period		(52.5)	(41.9)
Amortization reclassified into earnings		43.4	48.1
Settlements/curtailments reclassified to earnings		(1.8)	2.2
Currency translation and other		(10.4)	(1.4)
Tax (expense) benefit		(0.7)	(4.7)
Total pension and OPEB adjustments, net of tax	35	(23.9)	(3.4)
Other comprehensive income (loss), net of tax		242.8	(41.6)
Comprehensive income, net of tax		1,112.8	1,386.9
Less: Comprehensive income attributable to non-controlling interests	36	(17.8)	(18.5)
Comprehensive income attributable to Trane Technologies plc		1,095.0	1,368.4

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

Trane Technologies plc
Consolidated Balance Sheet
As at 31 December 2020

	Note	2020 $m	2019 $m
Fixed assets			
Intangible assets	16	8,629.2	8,449.3
Tangible assets	17	1,349.5	1,352.0
Right-to-use assets	18	409.0	469.4
Financial assets	19	217.3	152.4
		10,605.0	10,423.1
Current Assets			
Stock	20	1,189.2	1,278.6
Debtors	21	2,426.5	2,529.4
Cash at bank and in hand	22	3,289.9	1,278.6
Assets held for sale	13	—	4,207.2
		6,905.6	9,293.8
Debtors: amounts falling due after more than one year	23	646.1	775.4
Creditors: amounts falling due within one year	24	(3,911.1)	(4,775.6)
Net current assets		2,994.5	4,518.2
Total assets less current liabilities		14,245.6	15,716.7
Creditors: amounts falling due after more than one year	25	(5,079.8)	(5,421.4)
Net assets excluding provisions for liabilities		9,165.8	10,295.3
Provisions for liabilities	30	(2,738.7)	(2,982.9)
Net assets including provisions for liabilities		6,427.1	7,312.4
Capital and reserves			
Called-up share capital presented as equity	33	263.3	262.8
Share premium account		1,183.0	934.1
Capital redemption reserve		113.0	111.2
Other reserves	35	(526.3)	(788.1)
Profit and loss account		5,374.7	6,747.6
Total Trane Technologies plc equity		6,407.7	7,267.6
Non-controlling interests	36	19.4	44.8
Total equity		6,427.1	7,312.4

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

The consolidated financial statements were approved by the Board of Directors on 7 April 2021 and signed on its behalf by:

/s/ Myles P. Lee
Myles P. Lee
Director

/s/ John P. Surma
John P. Surma
Director

Trane Technologies plc
Consolidated Statement of Changes in Equity

	Note	Called-up share capital - presented as equity Amount	Shares	Share premium account	Capital redemption reserve	Other reserves	Profit and loss account	Total Trane Technologies plc Equity	Non-controlling interests	Total Equity
		$m	Number	$m	$m	$m	$m	$m	$m	$m
Balance at 1 January 2019		266.4	266.4	650.6	104.8	(598.3)	6,599.2	7,022.7	42.1	7,064.8
Profit for the financial year		—	—	—	—	—	1,410.9	1,410.9	17.6	1,428.5
Other comprehensive income (loss)	35	—	—	—	—	(42.5)	—	(42.5)	0.9	(41.6)
Shares issued under incentive stock plans	33	2.8	2.8	283.5	—	(213.8)	—	72.5	—	72.5
Repurchase of ordinary shares	33	(6.4)	(6.4)	—	6.4	—	(750.1)	(750.1)	—	(750.1)
Share-based compensation	35	—	—	—	—	66.4	(2.9)	63.5	—	63.5
Dividends declared to non-controlling interests	36	—	—	—	—	—	—	—	(15.8)	(15.8)
Cash dividends declared and paid ($2.12 per share)	35	—	—	—	—	—	(509.5)	(509.5)	—	(509.5)
Other	35	—	—	—	—	0.1	—	0.1	—	0.1
Balance at 31 December 2019		262.8	262.8	934.1	111.2	(788.1)	6,747.6	7,267.6	44.8	7,312.4
Profit for the financial year		—	—	—	—	—	854.9	854.9	15.1	870.0
Other comprehensive income (loss)	35	—	—	—	—	240.1	—	240.1	2.7	242.8
Shares issued under incentive stock plans	33	2.3	2.3	245.0	—	(182.8)	—	64.5	—	64.5
Repurchase of ordinary shares	33	(1.8)	(1.8)	—	1.8	—	(250.0)	(250.0)	—	(250.0)
Share-based compensation	35	—	—	—	—	69.5	(3.2)	66.3	—	66.3
Dividends declared to non-controlling interests	36	—	—	—	—	—	—	—	(18.3)	(18.3)
Investment by joint venture partner	36	—	—	3.9	—	—	—	3.9	3.1	7.0
Cash dividends declared and paid ($2.12 per share)	35	—	—	—	—	—	(507.7)	(507.7)	—	(507.7)
Separation of Ingersoll Rand Industrial	13	—	—	—	—	135.0	(1,466.9)	(1,331.9)	(28.0)	(1,359.9)
Balance at 31 December 2020		263.3	263.3	1,183.0	113.0	(526.3)	5,374.7	6,407.7	19.4	6,427.1

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

Trane Technologies plc
Consolidated Statements of Cash Flows
For the financial year ended 31 December 2020

	2020	**2019**
	$m	**$m**
Cash flows from operating activities:		
Profit for the financial year	870.0	1,428.5
Discontinued operations, net of taxation	121.4	(268.2)
Adjustments for non-cash transactions:		
Depreciation and amortization	294.3	288.8
Pension and other postretirement benefits	68.8	96.3
Stock settled share-based compensation	69.5	66.4
Other non-cash items, net	(1.5)	(17.8)
Changes in other assets and liabilities, net of the effects of acquisitions:		
Debtors	5.9	(77.8)
Stock	109.0	3.9
Other current and non-current assets	29.7	(245.8)
Trade creditors	75.8	93.2
Other current and non-current liabilities	123.3	156.2
Net cash provided by (used in) continuing operating activities	1,766.2	1,523.7
Net cash provided by (used in) discontinued operating activities	(331.2)	395.8
Net cash provided by (used in) operating activities	1,435.0	1,919.5
Cash flows from investing activities:		
Capital expenditures	(146.2)	(205.4)
Acquisitions and equity method investments, net of cash acquired	(182.8)	(83.4)
Proceeds from sale of tangible fixed assets	0.1	2.2
Deconsolidation of certain entities under Chapter 11	(10.8)	—
Other investing activities, net	1.2	4.8
Net cash provided by (used in) investing activities	(338.5)	(281.8)
Net cash provided by (used in) discontinued investing activities	(37.7)	(1,498.2)
Net cash provided by (used in) investing activities	(376.2)	(1,780.0)
Cash flows from financing activities:		
Proceeds from long-term debt	—	1,497.9
Payments of long-term debt	(307.5)	(7.5)
Net proceeds from (payments of) debt	(307.5)	1,490.4
Debt issuance costs	(3.6)	(13.1)
Dividends paid to ordinary shareholders	(507.3)	(510.1)
Dividends paid to non-controlling interests	(18.3)	(15.8)
Proceeds (payments) from shares issued under incentive plans, net	64.5	72.5
Repurchase of ordinary shares	(250.0)	(750.1)
Receipt of special cash payment	1,900.0	—
Other financing activities, net	6.5	(1.8)
Net cash provided by (used in) financing activities	884.3	272.0
Net cash provided by (used in) discontinued financing activities	—	(1.5)
Net cash provided by (used in) financing activities	884.3	270.5
Effect of exchange rate changes on cash at bank and in hand	68.2	(9.8)
Net increase (decrease) in cash at bank and in hand	2,011.3	400.2
Cash at bank and in hand - beginning of period	1,278.6	878.4
Cash at bank and in hand - end of period	3,289.9	1,278.6
Cash paid during the year for:		
Interest	243.5	220.9
Taxation, net of refunds	151.6	425.3

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

1. GENERAL INFORMATION

Trane Technologies plc (Plc, Parent Company or Company), a public limited company incorporated in Ireland in 2009, and its consolidated subsidiaries (collectively, we, our, the Group) is a global climate innovator that brings efficient and sustainable climate solutions to buildings, homes and transportation driven by strategic brands Trane® and Thermo King® and an environmentally responsible portfolio of products and services.

The registered office address is 170-175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland.

Reportable Segments

Prior to the separation of the Group's Industrial segment on 29 February 2020, the Group announced a new organizational model and business segment structure designed to enhance its regional go-to-market capabilities, aligning the structure with the Group's strategy and increased focus on climate innovation. Under the revised structure, the Group created three new regional operating segments from the former climate segment, which also serve as the Group's reportable segments.

- The Group's Americas segment innovates for customers in the North America and Latin America regions. The Americas segment encompasses commercial heating and cooling systems, building controls, and energy services and solutions; residential heating and cooling; and transport refrigeration systems and solutions.
- The Group's EMEA segment innovates for customers in the Europe, Middle East and Africa region. The EMEA segment encompasses heating and cooling systems, services and solutions for commercial buildings, and transport refrigeration systems and solutions.
- The Group's Asia Pacific segment innovates for customers throughout the Asia Pacific region. The Asia Pacific segment encompasses heating and cooling systems, services and solutions for commercial buildings and transport refrigeration systems and solutions.

This model is designed to create deep customer focus and relevance in markets around the world. Each segment reports through separate management teams and regularly reviews their operating results with the Chief Executive Officer, the Group's Chief Operating Decision Maker (CODM) determined in accordance with applicable accounting guidance. All prior period comparative segment information has been recast to reflect the current reportable segments.

COVID-19 Global Pandemic

In March 2020, the World Health Organization declared the outbreak of a respiratory disease caused by a newly discovered coronavirus, known now as COVID-19, as a global pandemic and recommended containment and mitigation measures worldwide. Beginning in the first quarter, many countries responded by implementing measures to combat the outbreak which impacted global business operations and resulted in a Group decision to temporarily close or limit its workforce to essential crews within many facilities throughout the world in order to ensure employee safety. In addition, the Group's non-essential employees were instructed to work from home in compliance with global government stay-in-place protocols.

The Group has been adversely impacted by the COVID-19 global pandemic. Temporary facility closures beginning in the first quarter of 2020 disrupted results in the Asia Pacific region with impacts more widely felt throughout operations in the Americas and EMEA in the months thereafter. During the second quarter of 2020, the Group began to reopen facilities while maintaining appropriate health and safety precautions. However, the challenges in connection with the pandemic continued as the Group experienced lower volume, which negatively impacted revenue, and certain supply chain delays. In response, the Group proactively initiated cost cutting actions in an effort to mitigate the impact of the pandemic on its business. This included reducing discretionary spending, restricting travel, delaying merit-based salary increases and implementing employee furloughs in certain markets.

The Group continues to navigate the new realities brought about by the COVID-19 global pandemic. Despite these challenges, all production facilities remain open and the Company continues to sell, install and service its products. During the second half of 2020, the Group did not experience any major delays in its supply chain and continued to focus on health and safety precautions to protect its employees and customers. In addition, during the fourth quarter of 2020, the Group completed several restorative actions including the reinstatement of annual merit-based salary increases and resuming all aspects of our balanced capital allocation strategy which included acquisitions and share repurchases.

The preparation of financial statements requires management to use judgments in making estimates and assumptions based on the relevant information available at the end of each period. These estimates and assumptions have a significant effect on reported amounts of assets and liabilities, turnover and expenses, as well as the disclosure of contingencies because they may arise from matters that are inherently uncertain. The financial statements reflect the Group's best estimates as of 31 December 2020 (including as it relates to the actual and potential future impacts of the global pandemic) with respect to the recoverability of its assets, including its receivables and long-lived assets such as goodwill and intangibles. However, due to significant uncertainty surrounding the COVID-19 global pandemic, management's judgment regarding this could change in the future. In addition, while the Group's results of operations, cash flows and financial condition could be negatively impacted, the extent of the impact cannot be estimated with certainty at this time.

Reorganization of Aldrich and Murray

On 1 May 2020, certain subsidiaries of the Group underwent an internal corporate restructuring that was effectuated through a series of transactions (2020 Corporate Restructuring). As a result, Aldrich Pump LLC (Aldrich) and Murray Boiler LLC (Murray), indirect wholly-owned subsidiaries of Trane Technologies plc, became solely responsible for the asbestos-related liabilities, and the beneficiaries of the asbestos-related insurance assets, of Trane Technologies Company LLC, formerly known as Ingersoll-Rand Company, and Trane U.S. Inc, respectively. On a consolidated basis, the 2020 Corporate Restructuring did not have an impact on the Condensed Consolidated Financial Statements.

On 18 June 2020 (Petition Date), Aldrich and Murray filed voluntary petitions for relief under Chapter 11 of Title 11 of the United States Code (the Bankruptcy Code) in the United States Bankruptcy Court for the Western District of North Carolina (the Bankruptcy Court) to resolve equitably and permanently all current and future asbestos related claims in a manner beneficial to claimants, Aldrich and Murray. As a result of the Chapter 11 filings, all asbestos-related lawsuits against Aldrich and Murray have been stayed due to the imposition of a statutory automatic stay applicable in Chapter 11 bankruptcy cases. Only Aldrich and Murray have filed for Chapter 11 relief. Neither Aldrich's wholly-owned subsidiary, 200 Park, Inc. (200 Park), Murray's wholly-owned subsidiary, ClimateLabs LLC (ClimateLabs), Trane Technologies plc nor its other subsidiaries (the Trane Companies) are part of the Chapter 11 filings. The Trane Companies are expected to continue to operate as usual, with no disruption to their employees, suppliers, or customers globally. However, as of the Petition Date, Aldrich and its wholly-owned subsidiary 200 Park and Murray and its wholly-owned subsidiary ClimateLabs were deconsolidated and their respective assets and liabilities were derecognized from the Group's Consolidated Financial Statements. Refer to Note 31, "Commitments and Contingencies," for more information regarding the Chapter 11 bankruptcy and asbestos-related matters.

2. COMPLETION OF REVERSE MORRIS TRUST TRANSACTION

On 29 February 2020 (Distribution Date), the Company completed its Reverse Morris Trust transaction (the Transaction) with Gardner Denver Holdings, Inc. (Gardner Denver, which changed its name to Ingersoll Rand, Inc. after the Transaction) whereby the Company distributed Ingersoll-Rand U.S. HoldCo, Inc., which contained the Company's former Industrial segment (Ingersoll Rand Industrial), through a pro rata distribution (the Distribution) to shareholders of record as of 24 February 2020. Ingersoll Rand Industrial then merged into a wholly-owned subsidiary of Gardner Denver. Upon close of the Transaction, the Company's existing shareholders received approximately 50.1% of the shares of Gardner Denver common stock on a fully-diluted basis and Gardner Denver stockholders retained approximately 49.9% of the shares of Gardner Denver on a fully diluted basis. As a result, the Company's shareholders received .8824 shares of Gardner Denver common stock with respect to each share owned as of 24 February 2020. In connection with the Transaction, Ingersoll-Rand Services Company, an affiliate of Ingersoll Rand Industrial, borrowed an aggregate principal amount of $1.9 billion under a senior secured first lien term loan facility (Term Loan), the proceeds of which were used to make a special cash payment of $1.9 billion to a subsidiary of the Company. The obligations under the Term Loan were retained by Ingersoll-Rand Services Company, which following the Transaction is a wholly-owned subsidiary of Gardner Denver. The Distribution together with certain related transactions undertaken in advance of the Distribution and taking into account the merger of Ingersoll Rand Industrial with the wholly owned subsidiary of Gardner Denver has been accounted for on a tax free basis. For additional considerations see U.S. federal income taxes principal risk on page 31 of the Directors' Report.

Discontinued Operations

After the Distribution Date, the Company does not beneficially own any Ingersoll Rand Industrial shares of common stock and will no longer consolidate Ingersoll Rand Industrial in its financial statements. In accordance with GAAP, the historical results of Ingersoll Rand Industrial are presented as a discontinued operation in the Consolidated Profit and Loss Account and Consolidated Statement of Cash Flows. In addition, the assets and liabilities of Ingersoll Rand Industrial have been recast to held-for-sale at 31 December 2019. In connection with the Transaction, the Company entered into several agreements with Gardner Denver covering supply, administrative and tax matters to provide or obtain services on a transitional basis for varying periods after the Distribution Date. The agreements cover services such as manufacturing, information technology, human resources and finance. Income and expenses under these agreements were not material. In accordance with several customary transaction-related agreements between the Company and Gardner Denver, the parties are in a process to determine final adjustments to working capital, cash and indebtedness amounts as of the Distribution Date, as well as another process to determine funding levels related to pension plans, non-qualified deferred compensation plans and retiree health benefits. As of 31 December 2020, both are ongoing in accordance with the transaction-related agreements. Upon finalization of these agreements, any adjustments will be recognized within the *Profit and loss account reserve*.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND STATEMENT OF COMPLIANCE

The significant accounting policies used in the preparation of the financial statements are set out below. These policies have been consistently applied to all financial years presented, unless otherwise stated.

(a) Basis of preparation:

Irish law requires the directors to prepare financial statements for each financial year giving a true and fair view of the group's and company's assets, liabilities and financial position as at the end of the financial year and of the profit or loss of the group for the financial year. Under that law, the Directors have prepared the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP), as defined in Section 279(1) of the Companies Act 2014, to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of the Companies Act or of any regulations made thereunder and the Parent Company financial statements in compliance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council and the Companies Act 2014) including Financial Reporting Standard 102, 'The Financial Reporting Standard applicable in the United Kingdom and Republic of Ireland' (FRS 102).

The Consolidated Financial Statements are prepared in accordance with Irish Company Law, to present to the shareholders of Trane Technologies plc and file with the Companies Registration Office in Ireland. Accordingly, these Consolidated Financial Statements include disclosures required by the Companies Act 2014 of Ireland in addition to those required under U.S. GAAP.

The preparation of the Consolidated Financial Statements in conformity with U.S. GAAP requires management to use judgment in making estimates and assumptions based on the relevant information available at the end of each period. These estimates and assumptions have a significant effect on reported amounts of assets and liabilities, turnover and expenses as well as the disclosure of contingent assets and liabilities because they result primarily from the need to make estimates and assumptions on matters that are inherently uncertain. Actual results may differ from estimates.

(b) Going concern: The Consolidated Financial Statements basis have been prepared on a going concern basis. The board has formed a judgement at the time of approving the Consolidated Financial Statements that there is a reasonable expectation that the Group will have adequate resources to continue in operational existance for a period of at least twelve months from the date on which the Consolidated Financial Statements are approved for issue. In arriving at its conclusion the board has taken account of uncertainties driven by the COVID-19 global pandemic. The board expects that the Group's existing cash resources, cash expected to be generated from operations, committed borrowing facilities and the Group's expected ability to access the capital and debt markets will be sufficient to fund the Group's operating and capital needs for at least the twelve month period of its going concern assessment. For further details, refer to pages 33 and 34 of the Directors' Report.

(c) Currency Translation

(i) Functional and presentation currency
The group's functional and presentation currency is the U.S. dollar, denominated by the symbol "$" and unless otherwise stated, the financial statements have been presented in millions.

ii) Transactions and balances
Assets and liabilities of non-U.S. subsidiaries, where the functional currency is not the U.S. dollar, have been translated at year-end exchange rates, and income and expenses accounts have been translated using average exchange rates throughout the year. Adjustments resulting from the process of translating an entity's financial statements into the U.S. dollar have been recorded in the equity section of Consolidated Balance Sheet within Other reserves. Transactions that are denominated in a currency other than an entity's functional currency are subject to changes in exchange rates with the resulting gains and losses recorded within profit for the financial year.

(d) Basis of Consolidation: The Consolidated Financial Statements include all majority-owned subsidiaries of the Group. A non-controlling interest in a subsidiary is considered an ownership interest in a majority-owned subsidiary that is not attributable to the parent. The Group includes Non-controlling interests as a component of Total Equity in the Consolidated Balance Sheet and the profits attributable to non-controlling interests are presented as an adjustment from profit after taxation used to arrive at the profit for the financial year attributable to Trane Technologies plc in the Consolidated Profit and Loss Account. Partially-owned equity affiliates represent 20-50% ownership interests in investments where the Group demonstrates significant influence, but does not have a controlling financial interest. Partially-owned equity affiliates are accounted for under the equity method.

(e) Use of Estimates: The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of contingent assets and liabilities at the date of the financial statements as well as the reported amounts of turnover and expenses during the reporting period. Estimates are based on several factors including the facts and circumstances available at the time the estimates are made, historical experience, risk of loss, general economic conditions and trends, and the assessment of the probable future outcome. Actual results could differ from those estimates. Estimates and assumptions are reviewed periodically, and the effects of changes, if any, are reflected in the statement of operations in the period that they are determined.

(f) Cash at Bank and in Hand: Cash at bank and in hand include cash on hand, demand deposits and all highly liquid investments with original maturities at the time of purchase of three months or less. The Group maintains amounts on deposit at various financial institutions, which may at times exceed federally insured limits. However, management periodically evaluates the credit-worthiness of those institutions and has not experienced any losses on such deposits.

(g) Allowance for Doubtful Accounts: In accordance with Accounting Standard Update (ASU) 2016-13, "Financial Instruments - Credit Losses" (ASU 2016-13), the Group maintains an allowance for doubtful debtors which represents the best estimate of probable loss inherent in the Group's trade debtors portfolio. This estimate is based upon a two-step policy that results in the total recorded allowance for doubtful accounts. The first step is to record a portfolio reserve based on the aging of the outstanding debtors portfolio and the Group's historical experience with the Group's end markets, customer base and products. The second step is to create a specific reserve for significant accounts as to which the customer's ability to satisfy their financial obligation to the Group is in doubt due to circumstances such as bankruptcy, deteriorating operating results or financial position. In these circumstances, management uses its judgment to record an allowance based on the best estimate of probable loss, factoring in such considerations as the market value of collateral, if applicable. Actual results could differ from those estimates. These estimates and assumptions are reviewed periodically, and the effects of changes, if any, are reflected in the Consolidated Profit and Loss Account in the period that they are determined. The Group reserved $40.0 million and $32.2 million for doubtful accounts as of 31 December 2020 and 2019, respectively.

(h) Stock: Depending on the business, U.S. inventories are stated at the lower of cost or market using the last-in, first-out (LIFO) method or the lower of cost or market using the first-in, first-out (FIFO) method. Non-U.S. inventories are primarily stated at the lower of cost or market using the FIFO method. At 31 December 2020 and 2019, approximately 60% and 62%, respectively, of all inventory utilized the LIFO method.

(i) Tangible Fixed Assets: Tangible fixed assets are stated at cost, less accumulated depreciation. Assets placed in service are recorded at cost and depreciated using the straight-line method over the estimated useful life of the asset except for leasehold improvements, which are depreciated over the shorter of their economic useful life or their lease term. The range of useful lives used to depreciate property, plant and equipment is as follows:

Buildings	10	to	50	years
Machinery and equipment	2	to	12	years
Fixture and fittings	5	to	10	years
Software	2	to	7	years
Fleet and rentals	3	to	6	years

Major expenditures for replacements and significant improvements that increase asset values and extend useful lives are also capitalized. Capitalized costs are amortized over their estimated useful lives using the straight-line method. Repairs and maintenance expenditures that do not extend the useful life of the asset are charged to expense as incurred. The carrying amounts of assets that are sold or retired and the related accumulated depreciation are removed from the accounts in the year of disposal, and any resulting gain or loss is reflected within current earnings.

Per ASC 360, "Property, Plant, and Equipment," (ASC 360) the Group assesses the recoverability of the carrying value of its property, plant and equipment whenever events or changes in circumstances indicate that the carrying amount of the asset group may not be recoverable. Recoverability is measured by a comparison of the carrying amount of an asset group to the future net undiscounted cash flows expected to be generated by the asset group. If the undiscounted cash flows are less than the carrying amount of the asset group, an impairment loss is recognized for the amount by which the carrying value of the asset group exceeds the fair value of the asset group.

(j) Goodwill and Intangible Assets: The Group records as goodwill the excess of the purchase price over the fair value of the net assets acquired in a business combination. Irish company law requires goodwill and other fixed assets to be written off over a time period which does not exceed their useful life. Consistent with U.S. GAAP, the Group does not amortize goodwill and certain intangibles over an arbitrary period as they are considered to have an indefinite life. In accordance with ASC 350, "Intangibles-Goodwill and Other," (ASC 350) goodwill and other indefinite-lived intangible assets are tested and reviewed annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the asset is more likely than not less than the carrying amount of the asset. In addition, an interim impairment test is completed upon a triggering event or when there is a reorganization of reporting structure or disposal of all or a portion of a reporting unit.

Impairment of goodwill is assessed at the reporting unit level and begins with an optional qualitative assessment to determine if it is more likely than not that the fair value of each reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the goodwill impairment test under ASC 350. For those reporting units that bypass or fail the qualitative assessment, the test compares the carrying amount of the reporting unit to its estimated fair value. If the estimated fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired. To the extent that the carrying value of the reporting unit exceeds its estimated fair value, an impairment loss will be recognized for the amount by which the reporting unit's carrying amount exceeds its fair value, not to exceed the carrying amount of goodwill in that reporting unit.

As quoted market prices are not available for the Company's reporting units, the calculation of their estimated fair value is determined using three valuation techniques: a discounted cash flow model (an income approach), a market-adjusted multiple of earnings and revenues (a market approach), and a similar transactions method (also a market approach). The discounted cash flow approach relies on the Company's estimates of future cash flows and explicitly addresses factors such as timing, growth and margins, with due consideration given to forecasting risk. The multiple of earnings and revenues approach reflects the market's expectations for future growth and risk, with adjustments to account for differences between the guideline publicly traded companies and the subject reporting units. The similar transactions method considers prices paid in transactions that have recently occurred in the Company's industry or in related industries. These valuation techniques are weighted 50%, 40% and 10%, respectively.

Intangible assets such as patents, customer-related intangible assets and other intangible assets with finite useful lives are amortized on a straight-line basis over their estimated economic lives. The weighted-average useful lives approximate the following:

Customer relationships	17	years
Other	10	years

The Group assesses the recoverability of the carrying value of its intangible assets with finite useful lives whenever events or changes in circumstances indicate that the carrying amount of the asset group may not be recoverable. Recoverability is measured by a comparison of the carrying amount of an asset group to the future net undiscounted cash flows expected to be generated by the asset group. If the undiscounted cash flows are less than the carrying amount of the asset group, an impairment loss is recognized for the amount by which the carrying value of the asset group exceeds the fair value of the asset group.

(k) Business Combinations: In accordance with ASC 805, "Business Combinations" (ASC 805), acquisitions are recorded using the acquisition method of accounting. The Group includes the operating results of acquired entities from their respective dates of acquisition. The Group recognizes and measures the identifiable assets acquired, liabilities assumed, and any non-controlling interest as of the acquisition date fair value. The excess, if any, of total consideration transferred in a business combination over the fair value of identifiable assets acquired, liabilities assumed and any non-controlling interest is recognized as goodwill. Costs incurred as a result of a business combination other than costs related to the issuance of debt or equity securities are recorded in the period the costs are incurred.

(l) Employee Benefit Plans: The Group provides a range of benefits, including pensions, post-retirement and post-employment benefits to eligible current and former employees. Determining the cost associated with such benefits is dependent on various actuarial assumptions, including discount rates, expected return on plan assets, compensation increases, mortality, turnover rates, and healthcare cost trend rates. Actuaries perform the required calculations to determine expense in accordance with U.S. GAAP. Actual results may differ from the actuarial assumptions and are generally accumulated into *Other reserves* and amortized into *Profit for the financial year* over future periods. The Group reviews its actuarial assumptions at each measurement date and makes modifications to the assumptions based on current rates and trends, if appropriate.

(m) Loss Contingencies: Liabilities are recorded for various contingencies arising in the normal course of business. The Group has recorded reserves in the financial statements related to these matters, which are developed using input derived from actuarial estimates and historical and anticipated experience data depending on the nature of the reserve, and in certain instances with consultation of legal counsel, internal and external consultants and engineers. Subject to the uncertainties inherent in estimating future costs for these types of liabilities, the Group believes its estimated reserves are reasonable and does not believe the final determination of the liabilities with respect to these matters would have a material effect on the financial condition, results of operations, liquidity or cash flows of the Group for any year.

(n) Environmental Costs: The Group is subject to laws and regulations relating to protecting the environment. Environmental expenditures relating to current operations are expensed or capitalized as appropriate. Expenditures relating to existing conditions caused by past operations, which do not contribute to current or future turnovers, are expensed. Liabilities for remediation costs are recorded when they are probable and can be reasonably estimated, generally no later than the completion of feasibility studies or the Group's commitment to a plan of action. The assessment of this liability, which is calculated based on existing remediation technology, does not reflect any offset for possible recoveries from insurance companies, and is not discounted.

(o) Asbestos Matters: Prior to the Petition Date, certain of the Group's wholly-owned subsidiaries and former companies were named as defendants in asbestos-related lawsuits in state and federal courts. The Group recorded a liability for actual and anticipated future claims as well as an asset for anticipated insurance settlements. Asbestos-related defense costs were excluded from the asbestos claims liability and were recorded separately as services were incurred. None of the Group's existing or previously-owned businesses were a producer or manufacturer of asbestos. The Group recorded certain income and expenses associated with asbestos liabilities and corresponding insurance recoveries within *Discontinued operations, net of taxation*, as they related to previously divested businesses, except for amounts associated with Trane U.S. Inc.'s asbestos liabilities and corresponding insurance recoveries which were recorded within continuing operations.

(p) Product Warranties: Standard product warranty accruals are recorded at the time of sale and are estimated based upon product warranty terms and historical experience. The Group assesses the adequacy of its liabilities and will make adjustments as necessary based on known or anticipated warranty claims, or as new information becomes available. The Group's extended warranty liability represents the deferred turnover associated with its extended warranty contracts and is amortized into urnover on a straight-line basis over the life of the contract, unless another method is more representative of the costs incurred. The Group assesses the adequacy of its liability by evaluating the expected costs under its existing contracts to ensure these expected costs do not exceed the extended warranty liability.

(q) Taxation: Current tax represents the expected tax payable on the taxable income for the year, using tax rates and tax laws enacted or substantially enacted at the balance sheet date, along with any adjustment to tax payable in respect of previous years.

Deferred tax assets and liabilities are determined based on temporary differences between financial reporting and tax bases of assets and liabilities, applying enacted tax rates expected to be in effect for the year in which the differences are expected to reverse. The Group recognizes future tax benefits, such as net operating losses and non-U.S. tax credits, to the extent that realizing these benefits is considered in its judgment to be more likely than not. The Group regularly reviews the recoverability of its deferred tax assets considering its historic profitability, projected future taxable income, timing of the reversals of existing temporary differences and the feasibility of its tax planning strategies. Where appropriate, the Group records a valuation allowance with respect to a future tax benefit.

(r) Turnover Recognition: Turnover is recognized when control of a good or service promised in a contract (i.e., performance obligation) is transferred to a customer. Control is obtained when a customer has the ability to direct the use of and obtain substantially all of the remaining benefits from that good or service. A majority of the Group's turnover is recognized at a point-in-time as control is transferred at a distinct point in time per the terms of a contract. However, a portion of turnover is recognized over time as the customer simultaneously receives control as the Group performs work under a contract. For these arrangements, the cost-to-cost input method is used as it best depicts the transfer of control to the customer that occurs as the Group incurs costs.

(s) Research and Development Costs: The Group conducts research and development activities for the purpose of developing and improving new products and services. These expenditures are expensed when incurred. For the years ended 31 December 2020 and 2019, these expenditures amounted to approximately $165.0 million and $174.2 million, respectively.

(t) Provisions: Provisions are recorded for various liabilities arising in the normal course of business, including litigation and administrative proceedings, environmental matters, product liability, product warranty, worker's compensation and other claims. The Group has recorded provisions in the financial statements related to these matters, which are developed using input derived from actuarial estimates and historical and anticipated experience data depending on the nature of the provision, and in certain instances with consultation of legal counsel, internal and external consultants and engineers. Subject to the uncertainties inherent in estimating future costs for these types of liabilities, the Group believes its estimated provisions are reasonable and does not believe the final determination of the liabilities with respect to these matters would have a material effect on the financial condition, results of operations, liquidity or cash flows of the Group for any year.

(u) Ordinary shares acquired under share repurchase program: Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. The cost of shares acquired and canceled upon repurchase are accounted as a deduction from the profit and loss reserve. In addition, an amount equal to the nominal value of any shares canceled is included within the capital redemption reserve as required by Section 106 (4) (a) of the Companies Act 2014. The cost of shares acquired and held upon repurchase is accounted as a deduction from the profit and loss reserve and classified as treasury shares until such shares are canceled, reissued or disposed of. No gain or loss is recognised on the purchase, sale, issue or cancellation of the treasury shares. Where treasury shares are subsequently sold or reissued, any consideration received is included in *Total Equity*. Where treasury shares are subsequently canceled, the nominal value of such shares is transferred to the capital redemption reserve as required by Section 106 (4) (a) of the Companies Act 2014.

(v) Dividend income from shares in group undertakings: Dividend income from group undertakings are recognized in the period in which they are received.

(w) Distributions paid to equity shareholders: Interim dividends paid to the company's equity shareholders are recognized in the financial statements when approved by the Board of Directors and paid.

Recent Accounting Pronouncements

The FASB ASC is the sole source of authoritative GAAP other than the Securities and Exchange Commission (SEC) issued rules and regulations that apply only to SEC registrants. The FASB issues an ASU to communicate changes to the codification. The Group considers the applicability and impact of all ASU's. ASU's not listed below were assessed and determined to be either not applicable or are not expected to have a material impact on the consolidated financial statements.

Recently Adopted Accounting Pronouncements

In October 2020, the FASB issued ASU 2020-09, "Debt (Topic 470): Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762" (ASU 2020-09), which amends Topic 470 and certain other topics to conform to disclosure rules on guaranteed debt offerings in SEC Release No.33-10762. The SEC adopted amendments to the financial disclosure requirements for guarantors and issuers of guaranteed securities registered or being registered in Rule 3-10 of Regulations S-X, and affiliates whose securities registered or being registered in Rule 3-16 of Regulation S-X. The amended rules aim to improve disclosure, reduce compliance burdens for issuers and increase investor protection. ASU 2020-09 is effective on 4 January 2021, pursuant to SEC Release No. 33-10762 with early application permitted. The Group early adopted this standard during the first quarter of 2020 and elected to disclose summarized financial information of the issuers and guarantors on a combined basis within the *Supplemental Guarantor Financial Information* section of the Directors' Report.

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract" (ASU 2018-15), which aligns the requirements for capitalizing implementation costs in a cloud-computing arrangement service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. In addition, the guidance also clarifies the presentation requirements for reporting such costs in the financial statements. ASU 2018-15 is effective for annual reporting periods beginning after 15 December 2019 with early adoption permitted. The Group adopted this standard on 1 January 2020 on a prospective basis with no material impact on its financial statements.

In June 2016, the FASB issued ASU 2016-13, “Financial Instruments - Credit Losses” (ASU 2016-13), which changes the impairment model for most financial assets and certain other instruments from an incurred loss model to an expected loss model. In addition, the guidance also requires incremental disclosures regarding allowances and credit quality indicators. ASU 2016-13 is required to be adopted using the modified-retrospective approach and is effective in fiscal years beginning after 15 December 2019, including interim periods within those fiscal years, with early adoption permitted. The Group adopted this standard on 1 January 2020 with no material impact on its financial statements.

In February 2016, the FASB issued ASU 2016-02, “Leases” (ASC 842), which requires the lease rights and obligations arising from lease contracts, including existing and new arrangements, to be recognized as assets and liabilities on the balance sheet. The Group adopted this standard using a modified-retrospective approach as of 1 January 2019. Under this approach, the Group recognized and recorded a right-of-use (ROU) asset and related lease liability on the Consolidated Balance Sheet of $521 million with no impact to *Profit and loss account reserve*. Reporting periods prior to 1 January 2019 continue to be presented in accordance with previous lease accounting guidance under U.S. GAAP. As part of the adoption, the Group elected the package of practical expedients permitted under the transition guidance which includes the ability to carry forward historical lease classification. Refer to Note 18, “Leases,” for a further discussion on the adoption of ASC 842.

In August 2017, the FASB issued ASU 2017-12, "Derivatives and hedging (Topic 815): Targeted improvements to accounting for hedging activities" (ASU 2017-12). This standard more closely aligns the results of cash flow and fair value hedge accounting with risk management activities through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results in the financial statements. This standard also addresses specific limitations in current U.S. GAAP by expanding hedge accounting for both nonfinancial and financial risk components and by refining the measurement of hedge results to better reflect an entity’s hedging strategies. Additionally, by aligning the timing of recognition of hedge results with the earnings effect of the hedged item for cash flow and net investment hedges, and by including the earnings effect of the hedging instrument in the same income statement line item in which the earnings effect of the hedged item is presented, the results of an entity’s hedging program and the cost of executing that program will be more visible to users of financial statements. ASU 2017-12 is effective for annual reporting periods beginning after 15 December 2018 with early adoption permitted. The Group adopted this standard on 1 October 2018 with no material impact to the financial statements.

In October 2016, the FASB issued ASU 2016-16, “Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory” (ASU 2016-16) which removed the prohibition in Topic 740 against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory. As a result, the income tax consequences of an intra-entity transfer of assets other than inventory will be recognized in the current period income statement rather than being deferred until the assets leave the consolidated group. The Group applied ASU 2016-16 on a modified retrospective basis through a cumulative-effect adjustment which reduced the *Profit and loss account reserve* by $9.1 million as of 1 January 2018.

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers" (ASC 606), which created a comprehensive, five-step model for turnover recognition that requires a company to recognize turnover to depict the transfer of promised goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. Under ASC 606, a company will be required to use more judgment and make more estimates when considering contract terms as well as relevant facts and circumstances when identifying performance obligations, estimating the amount of variable consideration in the transaction price and allocating the transaction price to each separate performance obligation. The Group adopted this standard on 1 January 2018 using the modified retrospective approach and recorded a cumulative effect adjustment to increase the *Profit and loss account reserve* by $2.4 million with related amounts not materially impacting the Balance Sheet.

Recently Issued Accounting Pronouncements

In December 2019, the FASB issued ASU 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" (ASU 2019-12), which simplifies certain aspects of income tax accounting guidance in ASC 740, reducing the complexity of its application. Certain exceptions to ASC 740 presented within the ASU include: intraperiod tax allocation, deferred tax liabilities related to outside basis differences, year-to-date loss in interim periods, among others. ASU 2019-12 is effective for annual reporting periods beginning after December 15, 2020 including interim periods therein with early adoption permitted. The Group adopted this standard on 1 January 2021 with no material impact on its financial statements.

4. BUSINESS SEGMENT INFORMATION

The Group operates under three regional operating segments designed to create deep customer focus and relevance in markets around the world. Intercompany sales between segments are immaterial.

- The Group's Americas segment innovates for customers in the North America and Latin America regions. The Americas segment encompasses commercial heating and cooling systems, building controls, and energy services and solutions; residential heating and cooling; and transport refrigeration systems and solutions.
- The Group's EMEA segment innovates for customers in the Europe, Middle East and Africa region. The EMEA segment encompasses heating and cooling systems, services and solutions for commercial buildings, and transport refrigeration systems and solutions.
- The Group's Asia Pacific segment innovates for customers throughout the Asia Pacific region. The Asia Pacific segment encompasses heating and cooling systems, services and solutions for commercial buildings and transport refrigeration systems and solutions.

Management measures operating performance based on profit for the financial year excluding interest payable, taxation, depreciation and amortization, restructuring, unallocated corporate expenses and discontinued operations (Segment Adjusted EBITDA). Segment Adjusted EBITDA is not defined under GAAP and may not be comparable to similarly-titled measures used by other companies and should not be considered a substitute for profit or other results reported in accordance with GAAP. The Group believes Segment Adjusted EBITDA provides the most relevant measure of profitability as well as earnings power and the ability to generate cash. This measure is a useful financial metric to assess the Group's operating performance from period to period by excluding certain items that it believes are not representative of its core business and the Group uses this measure for business planning purposes. Segment Adjusted EBITDA also provides a useful tool for assessing the comparability between periods and the Group's ability to generate cash from operations sufficient to pay taxes, to service debt and to undertake capital expenditures because it eliminates non-cash charges such as depreciation and amortization expense.

A summary of operations by reportable segment for the years ended 31 December were as follows:

	2020	2019
	$m	$m
Turnover		
Americas	9,685.9	10,059.5
EMEA	1,648.1	1,762.6
Asia Pacific	1,120.7	1,253.8
Total Turnover	12,454.7	13,075.9
Segment adjusted EBITDA		
Americas	1,677.7	1,742.1
EMEA	265.7	267.7
Asia Pacific	188.8	182.8
Total Segment Adjusted EBITDA	2,132.2	2,192.6
Reconciliation of Segment Adjusted EBITDA to profit on ordinary activities before taxation		
Total Segment Adjusted EBITDA	2,132.2	2,192.6
Interest payable	(248.7)	(242.8)
Depreciation and amortization	(294.3)	(288.8)
Restructuring costs	(75.7)	(52.6)
Unallocated corporate expenses	(225.3)	(209.5)
Profit on ordinary activities before taxation	1,288.2	1,398.9
Depreciation and Amortization		
Depreciation and amortization from reportable segments	268.2	258.0
Unallocated depreciation and amortization	26.1	30.8
Total depreciation and amortization	294.3	288.8
Capital Expenditures		
Capital expenditures from reportable segments	130.6	188.1
Corporate capital expenditures	15.6	17.3
Total capital expenditures	146.2	205.4

At 31 December, a summary of long-lived assets by geographic area were as follows:

	2020	2019
	$m	$m
Long-lived assets		
United States	1,219.4	1,346.3
Non-U.S.	539.1	475.1
Total	1,758.5	1,821.4

5. OTHER OPERATING EXPENSE

	2020	2019
	$m	$m
Exchange gain (loss)	(10.0)	(9.5)
Other components of net periodic benefit cost	(14.7)	(34.9)
Other miscellaneous income/(expense)	24.3	15.4
	(0.4)	(29.0)

Other operating expense includes the results from activities other than normal business operations such as foreign currency gains and losses on transactions that are denominated in a currency other than an entity's functional currency. In addition, we include the components of net periodic benefit cost for pension and post retirement obligations other than the service cost component. Other miscellaneous income/(expense) includes items associated with certain legal matters as well as asbestos-related activities through the Petition Date. During the year ended 31 December 2020, the Group recorded a $17.4 million adjustment to correct an overstatement of a legacy legal liability that originated in prior years and a gain of $0.9 million related to the deconsolidation of Murray and its wholly-owned subsidiary ClimateLabs within other miscellaneous income/(expense). Refer to Note 31, "Commitments and Contingencies," for more information regarding asbestos-related matters.

6. TURNOVER

The Group recognizes turnover when control of a good or service promised in a contract (i.e., performance obligation) is transferred to a customer. Control is obtained when a customer has the ability to direct the use of and obtain substantially all of the remaining benefits from that good or service. A majority of the Group's turnover is recognized at a point-in-time as control is transferred at a distinct point in time per the terms of a contract. However, a portion of the Group's turnover is recognized over time as the customer simultaneously receives control as the Group performs work under a contract. For these arrangements, the cost-to-cost input method is used as it best depicts the transfer of control to the customer that occurs as the Group incurs costs.

Performance Obligations

A performance obligation is a distinct good, service or a bundle of goods and services promised in a contract. The Group identifies performance obligations at the inception of a contract and allocates the transaction price to individual performance obligations to faithfully depict the Group's performance in transferring control of the promised goods or services to the customer.

The following are the primary performance obligations identified by the Group:

Equipment and parts. The Group principally generates turnover from the sale of equipment and parts to customers and recognizes turnover at a point in time when control transfers to the customer. Transfer of control is generally determined based on the shipping terms of the contract.

Contracting and Installation. The Group enters into various construction-type contracts to design, deliver and build integrated solutions to meet customer specifications. These transactions provide services that range from the development and installation of new HVAC systems to the design and integration of critical building systems to optimize energy efficiency and overall performance. These contracts have a typical term of less than one year and are considered a single performance obligation as multiple combined goods and services promised in the contract represent a single output delivered to the customer. Turnover associated with contracting and installation contracts is recognized over time with progress towards completion measured using an input method as the basis to recognize turnover and an estimated profit. To-date efforts for work performed corresponds with and faithfully depicts transfer of control to the customer.

Services and Maintenance. The Group provides various levels of preventative and/or repair and maintenance type service agreements for its customers. The typical length of a contract is 12 months but can be as long as 60 months. Turnover associated with these performance obligations are primarily recognized over time on a straight-line basis over the life of the contract as the customer simultaneously receives and consumes the benefit provided by the Group. However, if historical evidence indicates that the cost of providing these services on a straight-line basis is not appropriate, turnover is recognized over the contract period in proportion to the costs expected to be incurred while performing the service. Certain repair services do not meet the definition of over time turnover recognition as the Group does not transfer control to the customer until the service is completed. As a result, turnover related to these services is recognized at a point in time.

Extended warranties. The Group enters into various warranty contracts with customers related to its products. A standard warranty generally warrants that a product is free from defects in workmanship and materials under normal use and conditions for a certain period of time. The Group's standard warranty is not considered a distinct performance obligation as it does not provide services to customers beyond assurance that the covered product is free of initial defects. An extended warranty provides a customer with additional time that the Group is liable for covered incidents associated with its products. Extended warranties are purchased separately and can last up to five years. As a result, they are considered separate performance obligations for the Group. Turnover associated with these performance obligations is primarily recognized over time on a straight-line basis over the life of the contract as the customer simultaneously receives and consumes the benefit provided by the Group. However, if historical evidence indicates that the cost of providing these services on a straight-line basis is not appropriate, turnover is recognized over the contract period in proportion to the costs expected to be incurred while performing the service. Refer to Note 31, "Commitments and Contingencies," for more information related to product warranties.

The transaction price allocated to performance obligations reflects the Group's expectations about the consideration it will be entitled to receive from a customer. To determine the transaction price, variable and noncash consideration are assessed as well as whether a significant financing component exists. The Group includes variable consideration in the estimated transaction price when it is probable that significant reversal of turnover recognized would not occur when the uncertainty associated with variable consideration is subsequently resolved. The Group considers historical data in determining its best estimates of variable consideration, and the related accruals are recorded using the expected value method. The Group has performance guarantees related to energy savings contracts that are provided under the maintenance portion of contracting and installation agreements extending from 2021-2047. These performance guarantees represent variable consideration and are estimated as part of the overall transaction price. The Group has not recognized any significant adjustments to the transaction price due to variable consideration.

The Group enters into sales arrangements that contain multiple goods and services, such as equipment, installation and extended warranties. For these arrangements, each good or service is evaluated to determine whether it represents a distinct performance obligation and whether the sales price for each obligation is representative of standalone selling price. If available, the Group utilizes observable prices for goods or services sold separately to similar customers in similar circumstances to evaluate relative standalone selling price. Otherwise, list prices are used if they are determined to be representative of standalone selling prices. List prices are used if they are determined to be representative of standalone selling prices. Where necessary, the Group ensures that the total transaction price is then allocated to the distinct performance obligations based on the determination of their relative standalone selling price at the inception of the arrangement.

The Group recognizes turnover for delivered goods or services when the delivered good or service is distinct, control of the good or service has transferred to the customer, and only customary refund or return rights related to the goods or services exist. The Group excludes from turnover taxes it collects from a customer that are assessed by a government authority.

Disaggregated Turnover

Turnover by geography and major type of good or service for the year ended at 31 December was as follows:

	2020	**2019**
	$m	**$m**
Americas		
Equipment	6,479.0	6,880.4
Services and parts	3,206.9	3,179.1
Total Americas	9,685.9	10,059.5
EMEA		
Equipment	1,119.9	1,208.0
Services and parts	528.2	554.6
Total EMEA	1,648.1	1,762.6
Asia Pacific		
Equipment	773.6	879.7
Services and parts	347.1	374.1
Total Asia Pacific	1,120.7	1,253.8
Total Turnover	12,454.7	13,075.9

Turnover from goods and services transferred to customers at a point in time accounted for approximately 81% (approximately 82% in 2019) of the Group's turnover for the year ended 31 December 2020.

Contract Balances

The opening and closing balances of contract assets and contract liabilities arising from contracts with customers for the period ended 31 December 2020 and 31 December 2019 were as follows:

	2020 $m	2019 $m
Contract assets	255.4	172.6
Contract liabilities	1,077.0	941.9

The timing of turnover recognition, billings and cash collections results in debtors, contract assets, and customer advances and deposits (contract liabilities) on the Consolidated Balance Sheet. In general, the Group receives payments from customers based on a billing schedule established in its contracts. Contract assets relate to the conditional right to consideration for any completed performance under the contract when costs are incurred in excess of billings under the percentage-of-completion methodology. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract liabilities relate to payments received in advance of performance under the contract or when the Group has a right to consideration that is unconditional before it transfers a good or service to the customer. Contract liabilities are recognized as turnover as (or when) the Group performs under the contract. During the year ended 31 December 2020, changes in contract asset and liability balances were not materially impacted by any other factors.

Approximately 55% of the contract liability balance at the 31 December 2019 was recognized as turnover during the year ended 31 December 2020. Additionally, approximately 40% of the contract liability balance at 31 December 2020 was classified as noncurrent and not expected to be recognized as turnover in the next 12 months.

7. INTEREST RECEIVABLE AND SIMILAR INCOME

	2020 $m	2019 $m
Short term investments	4.2	—
Long term investments	0.3	0.6
	4.5	0.6

8. INTEREST PAYABLE AND SIMILAR CHARGES

	2020 $m	2019 $m
Interest on bank debt (Note 26)	(241.9)	(236.8)
Amortization of debt issue costs (Note 26)	(6.5)	(5.5)
Interest on discounted receivables	(0.1)	—
Penalties	—	—
Other	(0.2)	(0.5)
	(248.7)	(242.8)

9. OPERATING EXPENSES

The following operating expenses have been recognised:

	2020 $m	2019 $m
Amortization of intangible assets (Note 16)	115.7	116.7
Depreciation (Note 17)	204.5	196.4
Restructuring costs (Note 14)	75.7	52.6
Research and development	165.0	174.2

Auditor's Remuneration

In accordance with statutory requirements in Ireland, remuneration (including expenses) of the Group's independent auditors in respect of the statutory audit and other services carried out were as follows:

	PwC Ireland (statutory auditor)		PwC (network firms)		Total	
	2020	2019	2020	2019	2020	2019
	$m	$m	$m	$m	$m	$m
Audit of the Group accounts [(a)]	0.7	0.7	9.9	12.1	10.6	12.8
Other assurance services [(b]	—	—	0.1	7.6	0.1	7.6
Tax advisory services [(c)]	0.2	—	5.8	7.8	6.0	7.8
Other non-audit [(d)]	—	—	—	—	—	—
Total	0.9	0.7	15.8	27.5	16.7	28.2

(a) Audit of the Group accounts for the years ended 31 December 2020 and 2019, respectively, were for professional services rendered for the audit of the Parent Company and the Group's annual consolidated financial statements and its internal controls over financial reporting, including quarterly reviews, statutory audits, issuance of consents, review of documents filed with the SEC and comfort letter preparation.

(b) Other assurance services for the year ended 31 December 2020 consist of fees related to performing the audit and review of certain financial statements including employee benefit plan audits. Other assurance services for the year ended 31 December 2019 include employee benefit plan audits and carve out audits related to the Group's Reverse Morris Trust Transaction with Gardner Denver Holdings, Inc. (the RMT Transaction).

(c) Tax advisory services for the year ended 31 December 2020 and 2019 include consulting and compliance services in the U.S. and non-U.S. locations and tax consulting services relating to the RMT transaction.

(d) Other non-audit fees for the year ended 31 December 2020 and 2019 include license fees for technical accounting software.

10. EMPLOYEES

Employees

The average monthly number of persons (including executive directors) employed by the Group during the financial year was as follows:

	2020	2019
Business segment	Number	Number
Americas	24,990	30,982
EMEA	4,509	5,851
Asia Pacific	5,090	8,637
Corporate	3,211	4,486
	37,800	49,956

Prior to the Transaction, the first two months of 2020 and the twelve months of 2019 include the employees of Ingersoll Rand Industrial.

The staff costs for the year for the above employees (including Executive Directors) were:

	2020 $m	2019 $m
Wages and salaries	2,549.4	2,666.6
Social insurance costs	253.7	280.1
Other retirement benefit costs	191.2	211.3
Other compensation costs	236.0	239.0
	3,230.3	3,397.0

The staff costs for employees of Ingersoll Rand Industrial are not included in the table above and are presented within discontinued operations for periods prior to the Distribution date.

Other compensation costs include private health insurance, tuition reimbursement and expatriate benefits.

Of the total staff costs $146.5 million (2019: $216.9 million) has been capitalized into stock and tangible fixed assets and $3,083.8 million (2019: $3,180.1 million) has been treated as an expense in the Consolidated Profit and Loss Account.

11. DIRECTORS' REMUNERATION

Directors' remuneration for the financial year 2020 and 2019 is set forth in the table below

	2020 $m	2019 $m
Emoluments	5.1	4.8
Gains by the directors on the exercise of share options	19.1	48.2
Benefits under long-term incentive schemes	2.4	2.8
Contributions to defined benefit retirement schemes	0.3	0.3
Compensation for loss of office paid by the company and other termination payments	—	—
	26.9	56.1

Retirement benefits are accruing to one director (2019: one) under a defined benefit scheme.

12. TAXATION

Current and deferred taxation

Profit on ordinary activities before taxation for the years ended 31 December were taxed within the following jurisdictions:

	2020 $m	2019 $m
United States	653.9	837.4
Non-U.S.	634.3	561.5
Total	1,288.2	1,398.9

The components of the *Provision for taxation* for the years ended 31 December were as follows:

	2020 $m	2019 $m
Current tax expense (benefit):		
United States	168.3	181.8
Non-U.S.	106.3	77.4
Total:	274.6	259.2
Deferred tax expense (benefit):		
United States	11.2	2.2
Non-U.S.	11.0	(22.8)
Total:	22.2	(20.6)
Total tax expense (benefit):		
United States	179.5	184.0
Non-U.S.	117.3	54.6
Total	296.8	238.6

The *Provision for taxation* differs from the amount of taxes determined by applying the applicable U.S. statutory tax rate to pretax income, as a result of the following differences:

	Percent of pretax income	
	2020	2019
Statutory U.S. rate	21.0 %	21.0 %
Increase (decrease) in rates resulting from:		
Non-U.S. tax rate differential	(1.1)	(2.8)
Tax on U.S. subsidiaries on non-U.S. earnings [(a)]	0.3	(0.2)
State and local income taxes [(b)]	4.3	3.0
Valuation allowances [(c)]	(1.1)	(2.9)
Stock based compensation	(1.7)	(1.7)
Expiration of carryforward tax attributes	1.1	—
Reserves for uncertain tax positions	(0.1)	(0.5)
Provision to return and other true-up adjustments	(0.2)	0.1
Other adjustments	0.5	1.1
Effective tax rate	23.0 %	17.1 %

(a) Net of foreign tax credits
(b) Net of changes in state valuation allowances
(c) Primarily federal and non-U.S., excludes state valuation allowances

Tax incentives, in the form of tax holidays, have been granted to the Group in certain jurisdictions to encourage industrial development. The expiration of these tax holidays varies by country. The tax holidays are conditional on the Group meeting certain employment and investment thresholds. The most significant tax holidays relate to the Group's qualifying locations in China, Puerto Rico and Panama. The benefit for the tax holidays for the years ended 31 December 2020 and 2019 was $24.6 million and $28.3 million, respectively.

Deferred tax assets and liabilities

A summary of the deferred tax accounts at 31 December are as follows:

	2020 $m	2019 $m
Deferred tax assets:		
Stock and Debtors	11.7	13.3
Fixed assets and intangibles	9.5	9.7
Operating lease liabilities	101.0	117.6
Post-employment and other benefit liabilities	323.5	340.6
Product liability	4.8	68.9
Funding liability	71.8	—
Other reserves and accruals	164.8	143.6
Net operating losses and credit carryforwards	509.0	562.6
Other	58.5	33.6
Gross deferred tax assets	1,254.6	1,289.9
Less: deferred tax valuation allowances	(320.5)	(309.4)
Deferred tax assets net of valuation allowances	934.1	980.5
Deferred tax liabilities:		
Stock and Debtors	(22.3)	(25.3)
Fixed assets and intangibles	(1,186.0)	(1,184.7)
Operating lease right-of-use assets	(99.5)	(117.6)
Post-employment and other benefit liabilities	(14.1)	(10.9)
Other reserves and accruals	(7.2)	(12.4)
Product liability	(0.2)	(0.7)
Undistributed earnings of foreign subsidiaries	(22.4)	(22.1)
Other	(3.2)	(18.7)
Gross deferred tax liabilities	(1,354.9)	(1,392.4)
Net deferred tax assets (liabilities)	(420.8)	(411.9)

At 31 December 2020, no deferred taxes have been provided for earnings of certain of the Group's subsidiaries, since these earnings have been, and under current plans will continue to be permanently reinvested in these subsidiaries. These earnings amount to approximately $1.6 billion which if distributed would result in additional taxes, which may be payable upon distribution, of approximately $260.0 million.

At 31 December 2020, the Group had the following operating loss and tax credit carryforwards available to offset taxable income in prior and future years:

	Amount $m	Expiration Period
U.S. Federal net operating loss carryforwards	611.8	2021-2036
U.S. Federal credit carryforwards	138.6	2022-2030
U.S. State net operating loss carryforwards	2,898.4	2021-Unlimited
U.S. State credit carryforwards	31.7	2021-Unlimited
Non-U.S. net operating loss carryforwards	490.8	2021-Unlimited
Non-U.S. credit carryforwards	9.3	Unlimited

The U.S. state net operating loss carryforwards were incurred in various jurisdictions. The non-U.S. net operating loss carryforwards were incurred in various jurisdictions, predominantly in Belgium, Brazil, India, Luxembourg, Spain, and the United Kingdom.

Activity associated with the Group's valuation allowance is as follows:

	2020 $m	2019 $m
At 1 January	309.4	310.3
Increase to valuation allowance	38.9	44.0
Decrease to valuation allowance	(22.8)	(43.6)
Other deductions	(0.1)	—
Write off against valuation allowance	(3.7)	—
Accumulated other comprehensive income (loss)	(1.2)	(1.3)
At 31 December	320.5	309.4

During 2020, the Group recorded a $22.3 million increase in valuation allowance on deferred tax assets primarily related to certain state net deferred tax assets as a result of the Transaction. In addition, the Group recorded a $16.0 million reduction in valuation allowances related to non-U.S. net operating losses, primarily as a result of a planned restructuring in a non-U.S. tax jurisdiction, and foreign tax credits as a result of revised projections of future foreign source income.

During 2019, the Group recorded a $43.6 million reduction in valuation allowance on deferred tax assets primarily related to non-U.S. net operating losses. In addition, the Group recorded a $19.3 million increase in a valuation allowance for certain state net deferred tax assets as a result of revised projections of future state taxable income during the carryforward period.

Unrecognized tax benefits

The Group has total unrecognized tax benefits of $65.4 million and $63.7 million as of 31 December 2020 and 2019, respectively. The amount of unrecognized tax benefits that, if recognized, would affect the continuing operations effective tax rate are $36.8 million as of 31 December 2020. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2020 $m	2019 $m
At 1 January	63.7	68.7
Additions based on tax positions related to the current year	1.0	1.2
Additions based on tax positions related to prior years	2.1	9.3
Reductions based on tax positions related to prior years	(1.5)	(13.1)
Reductions related to settlements with tax authorities	(0.7)	(0.9)
Reductions related to lapses of statute of limitations	(1.7)	(0.6)
Translation (gain) loss	2.5	(0.9)
At 31 December	65.4	63.7

The Group records interest and penalties associated with the uncertain tax positions within *Taxation*. The Group had reserves associated with interest and penalties, net of tax, of $14.6 million and $16.0 million at 31 December 2020 and 31 December 2019, respectively. For the year ended 31 December 2020 and 31 December 2019, the Group recognized a $0.1 million tax expense and a $0.7 million tax benefit, respectively, in interest and penalties, net of tax in continuing operations related to these uncertain tax positions.

The total amount of unrecognized tax benefits relating to the Group's tax positions is subject to change based on future events including, but not limited to, the settlements of ongoing audits and/or the expiration of applicable statutes of limitations. Although the outcomes and timing of such events are highly uncertain, it is reasonably possible that the balance of gross unrecognized tax benefits, excluding interest and penalties, could potentially be reduced by up to approximately $4.7 million during the next 12 months.

The provision for income taxes involves a significant amount of management judgment regarding interpretation of relevant facts and laws in the jurisdictions in which the Group operates. Future changes in applicable laws, projected levels of taxable income and tax planning could change the effective tax rate and tax balances recorded by the Group. In addition, tax authorities periodically review income tax returns filed by the Group and can raise issues regarding its filing positions, timing and amount of income or deductions, and the allocation of income among the jurisdictions in which the Group operates. A significant period of time may elapse between the filing of an income tax return and the ultimate resolution of an issue raised by a turnover authority with respect to that return. In the normal course of business the Group is subject to examination by taxing authorities throughout the world, including such major jurisdictions as Brazil, Canada, China, France, Germany, Ireland, Italy, Mexico, Spain, the Netherlands, the United Kingdom and the United States. These examinations on their own, or any subsequent litigation related to the examinations, may result in additional taxes or penalties against the Group. If the ultimate result of these audits differ from original or adjusted estimates, they could have a material impact on the Group’s tax provision. In general, the examination of the Group’s material tax returns are complete or effectively settled for the years prior to 2011, with certain matters prior to 2011 being resolved through appeals and litigation and also unilateral procedures as provided for under double tax treaties.

In connection with the Transaction, the Group and Gardner Denver entered into a tax sharing agreement for the allocation of taxes. The Group has an indemnity payable to Gardner Denver, included within other non-current liabilities, in the amount of $13.5 million of tax and interest primarily related to open audit years in non-U.S. tax jurisdictions.

13. ACQUISITIONS AND DIVESTITURES

Acquisitions and Equity Method Investments

Acquisitions are recorded using the acquisition method of accounting in accordance with ASC 805, "Business Combinations" (ASC 805). As a result, the aggregate purchase price has been allocated to assets acquired and liabilities assumed based on the estimate of fair market value of such assets and liabilities at the date of acquisition. The valuation of intangible assets are determined using an income approach methodology.

During 2020, the Group acquired independent dealers, reported within the Americas segment, to support the Group's ongoing strategy to expand its distribution network and service area. The aggregate cash paid, net of cash acquired, totaled $182.8 million and was financed through cash on hand. Intangible assets associated with these acquisitions totaled $78.9 million and primarily relate to customer relationships. The excess purchase price over the estimated fair value of net assets acquired was recognized as goodwill and totaled $130.1 million.

The fair values of the customer relationship intangible assets were determined using the multi-period excess earnings method based on discounted projected net cash flows associated with the profit for the financial year attributable to the acquired customer relationships. These projected cash flows are estimated over the remaining economic life of the intangible asset and are considered from a market participant perspective. Key assumptions used in estimating future cash flows included projected turnover growth rates and customer attrition rates. The projected future cash flows are discounted to present value using an appropriate discount rate. The customer relationships had a weighted-average useful life of 16 years.

During 2019, the Group acquired several businesses including independent dealers to support its ongoing strategy to expand its distribution network and service area as well as other businesses that strengthen the Group's product portfolios. The aggregate cash paid, net of cash acquired, totaled $83.4 million and was funded through cash on hand. Intangible assets associated with these acquisitions totaled $25.5 million and primarily relate to trademarks and customer relationships. The excess purchase price over the estimated fair value of net assets acquired was recognized as goodwill and totaled $45.3 million. These acquisitions were not material to the Group's financial statements and were reported in the Americas segment.

Divestitures

The components of *Discontinued operations, net of taxation* for the years ended December 31 were as follows:

	2020 $m	2019 $m
Turnover	469.8	3,523.0
Profit (loss) from discontinued operations before taxation	(136.3)	397.5
Benefit (provision) for income taxes	14.9	(129.3)
Discontinued operations, net of taxation	(121.4)	268.2

The table above presents the financial statement line items that support amounts included in *Discontinued operations, net of taxation*. For the year ended 31 December 2020, discontinued operations included pre-tax Ingersoll Rand Industrial separation costs of $114.2 million, which are primarily related to legal, consulting and advisory fees and a loss of $25.8 million related to the deconsolidation of Aldrich and its wholly-owned subsidiary 200 Park. The year ended 31 December 2019 includes $94.6 million of pre-tax Ingersoll Rand Industrial separation costs.

Separation of Industrial Segment Businesses

On 29 February 2020, the Group completed the Transaction with Gardner Denver whereby the Group separated Ingersoll Rand Industrial which then merged with a wholly-owned subsidiary of Gardner Denver. In accordance with GAAP, the historical results of Ingersoll Rand Industrial are presented as a discontinued operation in the Consolidated Statement of Comprehensive Income and Consolidated Statement of Cash Flows. In addition, the assets and liabilities of Ingersoll Rand Industrial have been recast to held-for-sale at 31 December 2019.

Turnover and earnings from operations, net of taxation of Ingersoll Rand Industrial for the years ended 31 December were as follows:

	2020 $m	2019 $m
Turnover	469.8	3,523.0
Profit (loss) attributable to equity holders of Trane Technologies plc	(85.8)	225.2
Profit (loss) attributable to noncontrolling interests	0.9	2.4
Profit (loss) on ordinary activities after taxation	(84.9)	227.6

Profit (loss) attributable to equity holders of Trane Technologies plc includes Ingersoll Rand Industrial separation costs, net of taxation primarily related to legal, consulting and advisory fees of $96.2 million during the year ended 31 December 2020. In addition, the year ended 31 December 2019 includes $89.4 million of Ingersoll Rand Industrial separation costs, net of taxation.

The components of Ingersoll Rand Industrial's assets and liabilities recorded as held-for-sale on the Consolidated Balance Sheet at 31 December 2019 were as follows:

	31 December 2019 $m
Assets	
Current assets[1]	$ 1,130.6
Tangible assets	454.3
Goodwill	1,657.4
Intangible assets, net	825.2
Other noncurrent assets	139.7
Assets held-for-sale	$ 4,207.2
Liabilities	
Creditors	$ 823.7
Noncurrent liabilities	376.7
Liabilities held-for-sale	$ 1,200.4

[1] Includes $25 million cash at bank and in hand in accordance with the merger agreement.

Other Discontinued Operations

Other discontinued operations, net of taxation related to retained obligations from previously sold businesses that primarily include ongoing expenses for postretirement benefits, product liability and legal costs. In addition, the Group includes asbestos-related activities of Aldrich through the Petition Date.

The components of *Discontinued operations, net of taxation* for the years ended December 31 were as follows:

	2020	2019
	$m	$m
Ingersoll Rand Industrial, net of taxation	$ (84.9)	$ 227.6
Other discontinued operations, net of taxation	(36.5)	40.6
Discontinued operations, net of taxation	$ (121.4)	$ 268.2

In addition, other discontinued operations, net of taxation includes a loss of $25.8 million related to the deconsolidation of Aldrich and its wholly-owned subsidiary 200 Park, for the year ended 31 December 2020. Refer to Note 31, "Commitments and Contingencies," for more information regarding the deconsolidation and asbestos-related matters.

14. RESTRUCTURING ACTIVITIES

The Group incurs costs associated with restructuring initiatives intended to result in improved operating performance, profitability and working capital levels. Actions associated with these initiatives include workforce reduction, improving manufacturing productivity, realignment of management structures, and rationalizing certain assets. Restructuring charges recorded during the years ended 31 December were as follows:

	2020	2019
	$m	$m
Americas	35.3	39.0
EMEA	7.4	5.1
Asia Pacific	5.1	6.7
Corporate and Other	27.9	1.8
Total	75.7	52.6
Cost of sales	24.1	37.3
Distribution costs and administrative expenses	51.6	15.3
Total	75.7	52.6

The changes in the restructuring reserve were as follows:

	Americas	EMEA	Asia Pacific	Corporate and Other	Total
	$m	$m	$m	$m	$m
1 January 2020	11.9	2.8	9.1	1.6	25.4
Additions, net of reversals [(1)]	31.3	7.4	5.1	27.9	71.7
Cash paid/Other	(30.6)	(5.9)	(12.2)	(18.9)	(67.6)
31 December 2020	12.6	4.3	2.0	10.6	29.5

[(1)] Excludes the non-cash costs of asset rationalizations ($4.0 million).

During the year ended 31 December 2020, costs associated with announced restructuring actions primarily included the following:

- costs related to the reorganization of resources and facilities in response to the completion of the Transaction and separation of Ingersoll Rand Industrial; and
- the plan to close a U.S. manufacturing facility within the Americas and relocate production to another existing U.S. facility announced in 2018.

Amounts recognized primarily relate to severance and exit costs. However, the Group does include costs that are directly attributable to the restructuring activity but do not fall into the severance, exit or disposal categories. As of 31 December 2020, the Group had $29.5 million (2019: $25.4 million) accrued for costs associated with its ongoing restructuring actions, of which a majority is expected to be paid within one year.

15. EARNINGS PER SHARE (EPS)

Basic EPS is calculated by dividing the Profit attributable to the equity holders of Trane Technologies plc by the weighted-average number of ordinary shares outstanding for the applicable period. Diluted EPS is calculated after adjusting the denominator of the basic EPS calculation for the effect of all potentially dilutive ordinary shares, which in the Company's case, includes shares issuable under share-based compensation plans. The following table summarises the weighted-average number of ordinary shares outstanding for basic and diluted earnings per share calculations:

In millions	2020	2019
Weighted-average number of basic shares outstanding	240.1	241.6
Shares issuable under incentive stock plans	3.0	2.8
Weighted-average number of diluted shares outstanding	243.1	244.4
Anti-dilutive shares	0.6	—
Dividends declared per ordinary share	2.12	2.12

16. INTANGIBLE ASSETS

Indefinite-lived intangible assets are tested and reviewed annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the asset may be less than the carrying amount of the asset. All other intangible assets with finite useful lives are being amortized on a straight-line basis over their estimated useful lives.

At 31 December, the major classes of intangible assets were as follows:

	Goodwill	Trademarks & Tradenames	Customer Relationships	Other	Total
Cost:					
At 1 January 2020	5,377.8	2,627.2	1,928.5	210.5	10,144.0
Acquisitions	130.1	—	74.0	4.9	209.0
Deconsolidation of certain entities under Chapter 11 [1]	(9.2)	(0.1)	(5.6)	(2.0)	(16.9)
Exchange differences	70.9	1.9	13.3	(4.4)	81.7
At 31 December 2020	5,569.6	2,629.0	2,010.2	209.0	10,417.8
Accumulated amortization:					
At 1 January 2020	252.1	0.9	1,239.2	202.5	1,694.7
Charge for the year	—	0.4	114.7	0.6	115.7
Deconsolidation of certain entities under Chapter 11 [1]	—	—	(0.2)	(0.3)	(0.5)
Exchange differences	(25.3)	0.1	8.7	(4.8)	(21.3)
At 31 December 2020	226.8	1.4	1,362.4	198.0	1,788.6
Net book amount					
At 1 January 2020	5,125.7	2,626.3	689.3	8.0	8,449.3
At 31 December 2020	5,342.8	2,627.6	647.8	11.0	8,629.2

[1] Refer to Note 31, "Commitments and Contingencies", for more information regarding the Chapter 11 bankruptcy and asbestos-related matters.

Intangible asset amortization expense for 2020 and 2019 was $115.7 million and $116.7 million, respectively. Future estimated amortization expense on existing intangible assets in each of the next five years amounts to approximately $122 million for 2021, $122 million for 2022, $121 million for 2023, $120 million for 2024, and $89 million for 2025.

The Group records as goodwill the excess of the purchase price over the fair value of the net assets acquired in an acquisition. Measurement period adjustments may be recorded once a final valuation has been performed. Goodwill is tested and reviewed annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the reporting unit may be less than its carrying value. In addition, an interim impairment test is completed upon a triggering event or when there is a reorganization of reporting structure or disposal of all or a portion of a reporting unit.

In connection with the new organizational model and business segment structure, the Group performed a goodwill impairment assessment immediately prior to the reorganization becoming effective, the results of which did not indicate any goodwill impairment. The Group then reassigned its goodwill between the newly designated reporting units using a relative fair value approach. Subsequent to the reassignment, the Group performed a second goodwill impairment assessment under the new reporting structure, the results of which also did not indicate any goodwill impairment.

The changes in the carrying amount of Goodwill are as follows:

	Americas	EMEA	Asia Pacific	Total
	$m	$m	$m	$m
Net balance as 1 January 2019	3,809.4	747.3	542.5	5,099.2
Acquisitions [(1)]	45.3	—	—	45.3
Currency translation	4.1	(16.2)	(6.7)	(18.8)
Net balance as at 31 December 2019	3,858.8	731.1	535.8	5,125.7
Acquisitions [(1)]	130.1	—	—	130.1
Deconsolidation of certain entities under Chapter 11 [(2)]	(9.2)	—	—	(9.2)
Currency translation	0.3	62.4	33.5	96.2
Net balance as at 31 December 2020	3,980.0	793.5	569.3	5,342.8

[(1)] Refer to Note 13, "Acquisitions and Divestitures" for more information regarding acquisitions.
[(2)] Refer to Note 31, "Commitments and Contingencies", for more information regarding the Chapter 11 bankruptcy and asbestos-related matters.

The net goodwill balances at 31 December 2020 and 2019 include $2,496.0 million of accumulated impairment. The accumulated impairment relates entirely to a charge in 2008.

17. TANGIBLE ASSETS

At 31 December the major classes of tangible assets were as follows:

	Land and Buildings	Machinery and Equipment	Fleet & Rentals	Fixtures and Fittings	Software	Construction In Progress	Total
	$m	$m	$m	$m	$m	$m	$m
Cost:							
At 1 January 2020	678.3	981.2	370.6	159.7	634.1	131.8	2,955.7
Additions at cost	22.7	106.3	44.9	13.1	12.9	0.7	200.6
Transfers	—	1.5	(0.3)	—	—	(8.2)	(7.0)
Exchange differences	8.2	13.6	12.2	3.4	1.6	2.0	41.0
Acquisitions	1.1	1.4	1.3	0.3	0.1	—	4.2
Divestitures	(4.2)	(1.9)	—	(0.2)	(0.2)	—	(6.5)
Disposals	(5.3)	(11.3)	(12.8)	(4.6)	(36.1)	—	(70.1)
Other	(0.5)	(0.6)	0.3	(5.3)	(4.1)	(3.0)	(13.2)
At 31 December 2020	700.3	1,090.2	416.2	166.4	608.3	123.3	3,104.7
Depreciation:							
At 1 January 2020	301.1	551.4	149.4	114.8	487.0	—	1,603.7
Charge for the year	24.9	82.6	34.4	12.4	50.2	—	204.5
Transfers	—	0.8	(0.2)	—	—	—	0.6
Exchange differences	2.9	9.7	4.9	2.6	1.2	—	21.3
Acquisitions	—	—	—	—	—	—	—
Divestitures	(1.7)	(0.7)	—	(0.2)	(0.1)	—	(2.7)
Disposals	(5.0)	(8.8)	(9.0)	(4.6)	(36.0)	—	(63.4)
Impairment	—	0.1	—	—	—	—	0.1
Other	(2.4)	(0.3)	(0.1)	(4.4)	(1.7)	—	(8.9)
At 31 December 2020	319.8	634.8	179.4	120.6	500.6	—	1,755.2
Net book amount							
At 1 January 2020	377.2	429.8	221.2	44.9	147.1	131.8	1,352.0
At 31 December 2020	380.5	455.4	236.8	45.8	107.7	123.3	1,349.5

During the financial year, tangible fixed assets with a net carrying amount of $6.7 million were disposed of. The assets had a cost of $70.1 million and accumulated depreciation of $63.4 million. The loss on the disposal of these tangible assets was $2.8 million (2019: loss of $2.3 million).

18. LEASES

The Group's lease portfolio includes various contracts for real estate, vehicles, information technology and other equipment. At contract inception, the Group determines a lease exists if the contract conveys the right to control an identified asset for a period of time in exchange for consideration. Control is considered to exist when the lessee has the right to obtain substantially all of the economic benefits from the use of an identified asset as well as the right to direct the use of that asset. If a contract is considered to be a lease, the Group recognizes a lease liability based on the present value of the future lease payments, with an offsetting entry to recognize a right-of-use asset. Options to extend or terminate a lease are included when it is reasonably certain an option will be exercised. As a majority of the Group's leases do not provide an implicit rate within the lease, an incremental borrowing rate is used which is based on information available at the commencement date.

The following table includes a summary of the Group's lease portfolio and Balance Sheet classification:

	Classification	31 December 2020 $m	31 December 2019 $m
Assets			
Operating lease right-of-use assets [(1)]	Other noncurrent assets	409.0	469.4
Liabilities			
Operating lease current	Other current liabilities	138.8	145.0
Operating lease noncurrent	Other noncurrent liabilities	276.5	329.9
Weighted average remaining lease term		4.0 years	4.3 years
Weighted average discount rate		3.3 %	3.6 %

(1) Prepaid lease payments and lease incentives are recorded as part of the right-of-use asset. The net impact was $6.3 million and $5.5 million at 31 December 2020 and 31 December 2019, respectively.

The Group accounts for each separate lease component of a contract and its associated non-lease component as a single lease component. In addition, the Group utilizes a portfolio approach for the vehicle, information technology and equipment asset classes as the application of the lease model to the portfolio would not differ materially from the application of the lease model to the individual leases within the portfolio.

At 31 December, right-of-use assets consisted of the following:

	$m
At 1 January 2020	469.4
Additions/modifications	54.8
Depreciation	(115.2)
At 31 December 2020	409.0

The following table includes lease costs and related cash flow information for the year ended 31 December:

	2020 $m	2019 $m
Operating lease expense	173.0	163.5
Variable lease expense	24.9	19.9
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	172.2	161.5
Right-of-use assets obtained in exchange for new operating lease liabilities	114.6	162.9

Operating lease expense is recognized on a straight-line basis over the lease term. In addition, the Group has certain leases that contain variable lease payments which are based on an index, a rate referenced in the lease or on the actual usage of the leased asset. These payments are not included in the right-of-use asset or lease liability and are expensed as incurred as variable lease expense.

Maturities of lease obligations were as follows:

		31 December 2020
		$m
Operating leases:		
2021	$	152.0
2022		114.1
2023		78.2
2024		46.8
2025		22.8
After 2025		34.5
Total lease payments	$	448.4
Less: Interest		(33.1)
Present value of lease liabilities	$	415.3

19. FINANCIAL ASSETS

The Group's financial assets were comprised of:

	Investment in associates and joint ventures (a)	Capital investments	Deposits	Trade & Loans Receivable	Long term notes receivable	Life insurance cash surrender value	Total
	$m	$m	$m	$m	$m	$m	$m
At 1 January 2020	108.7	0.5	11.0	8.3	7.8	16.1	152.4
Capital Stock Investment	53.6	—	—	—	—	—	53.6
Income/(Expenses)	37.3	—	—	—	—	—	37.3
Dividend	(22.0)	—	—	—	—	—	(22.0)
Other	—	—	(1.1)	(0.3)	(1.7)	(0.9)	(4.0)
At 31 December 2020	177.6	0.5	9.9	8.0	6.1	15.2	217.3

(a) Investments in associates and joint ventures includes the 25% interest in Alliance Compressors LLC, the 50% interest in Mitsubishi JV investment, the 49% interest in Dallah Trane JV investment, and the 100% interest in Aldrich and Murray.

20. STOCK

Depending on the business, U.S. inventories are stated at the lower of cost or market using the LIFO method or the lower of cost or market using the FIFO method. Non-U.S. inventories are primarily stated at the lower of cost or market using the FIFO method.

At 31 December the major classes of stock were as follows:

	2020	2019
	$m	$m
Raw materials	305.0	333.5
Work-in-process	163.9	173.7
Finished goods	761.4	804.9
	1,230.3	1,312.1
LIFO reserve	(41.1)	(33.5)
Total	1,189.2	1,278.6

The Group performs periodic assessments to determine the existence of obsolete, slow-moving and non-saleable inventories and records necessary provisions to reduce such inventories to net realizable value. Reserve balances, primarily related to obsolete and slow-moving inventories, were $85.6 million and $66.1 million at 31 December 2020 and 31 December 2019, respectively.

21. DEBTORS

	2020	2019
	$m	$m
Amounts falling due within one year:		
Trade debtors	2,156.7	2,136.6
Less: Provision for impairment of receivables	(40.0)	(32.2)
Less: Reserve for customer claims	(2.0)	(2.2)
Trade debtors - net	2,114.7	2,102.2
Trade notes receivable	7.1	6.1
Other debtors	80.2	76.3
Prepayments	188.9	255.8
Income tax receivables	35.6	89.0
	2,426.5	2,529.4

22. CASH AT BANK AND IN HAND

	2020	2019
	$m	$m
Cash at bank and in hand	3,289.9	1,278.6

23. DEBTORS – AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

	2020	2019
	$m	$m
Other debtors	350.1	497.3
Benefit trust assets	172.9	153.9
Prepayments	5.9	5.6
Deferred tax asset	117.2	118.6
	646.1	775.4

24. CREDITORS – AMOUNTS FALLING DUE WITHIN ONE YEAR

	2020	2019
	$m	$m
Debt and credit facilities (Note 26)	775.6	650.3
Short term lease obligations (Note 18)	138.8	145.0
Payments received on account	162.1	164.4
Trade creditors	1,520.2	1,381.3
Other creditors	507.1	539.1
Corporation tax	64.7	12.6
Other taxes	28.2	26.7
Value added tax	23.0	21.9
Income taxes	51.1	18.0
Excise duty	58.9	51.0
Derivatives payable	6.5	7.1
Liabilities held for sale (Note 13)	—	1,200.4
Deferred income	289.2	254.8
Accruals	285.7	303.0
	3,911.1	4,775.6

Creditors for taxation and social insurance included in the table above:	2020	2019
	$m	$m
Irish PAYE	1.6	2.0
Other income tax	51.1	18.0
Corporation tax	64.7	12.6
Value added tax	23.0	21.9
Other tax	28.2	26.7
	168.6	81.2

Trade creditors principally comprise amounts outstanding for day to day purchases and ongoing costs and are payable at various dates in the next three months in accordance with the creditors usual and customary credit terms. The directors consider that the carrying amount of trade creditors approximates to their fair value.

Other creditors and accruals falling due within one year and creditors for tax and social insurance are payable in the timeframe set down in the relevant legislation.

25. CREDITORS – AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

	2020	2019
Amounts falling due after more than one year	$m	$m
Long term debt (Note 26)	4,496.5	4,922.9
Long term lease obligations (Note 18)	276.5	329.9
Accruals	292.2	154.8
Deferred income	14.6	13.8
	5,079.8	5,421.4

	2020	2019
Amounts falling due after more than five years	$m	$m
Accruals	9.1	10.9
Deferred income	1.6	2.5
	10.7	13.4

26. DEBT AND CREDIT FACILITIES

At 31 December, *Short-term borrowings and current maturities of long-term debt consisted of the following*:

	2020	2019
	$m	$m
Debentures with put feature	343.0	343.0
2.625% Senior notes due 2020 (1)	—	299.8
2.900% Senior notes due 2021 (2)	299.9	—
9.000% Debentures due 2021 (3)	125.0	—
Other current maturities of long-term debt	7.7	7.5
	775.6	650.3

(1) The 2.625% Senior notes due in May 2020 were redeemed in April 2020.
(2) The 2.900% Senior notes are due in February 2021.
(3) The 9.000% Debentures are due in August 2021.

The Group's short-term obligations primarily consist of current maturities of long-term debt. The weighted-average interest rate for total *Short-term borrowings and current maturities of long-term debt* at 31 December 2020 and 2019 was 5.4% and 4.6%, respectively.

Commercial Paper Program

The Group uses borrowings under its commercial paper program for general corporate purposes. The maximum aggregate amount of unsecured commercial paper notes available to be issued, on a private placement basis, under the commercial paper program is $2.0 billion as of 31 December 2020. Under the commercial paper program, the Group may issue notes from time to time through Ingersoll-Rand Global Holding Company Limited or Ingersoll-Rand Luxembourg Finance S.A. Each of Ingersoll-Rand plc, Ingersoll-Rand Irish Holdings Unlimited Company, Ingersoll-Rand Lux International Holding Company S.à.r.l., Ingersoll-Rand Global Holding Company Limited and Ingersoll-Rand Company provided irrevocable and unconditional guarantees for any notes issued under the commercial paper program. The Group had no outstanding balance under its commercial paper program as of 31 December 2020 and 31 December 2019.

Debentures with Put Feature

At 31 December 2020 and 31 December 2019, the Group had $343.0 million of fixed rate debentures outstanding which contain a put feature that the holders may exercise on each anniversary of the issuance date. If exercised, the Group is obligated to repay in whole or in part, at the holder's option, the outstanding principal amount of the debentures plus accrued interest. If these options are not exercised, the final contractual maturity dates would range between 2027 and 2028. Holders of these debentures had the option to exercise the put feature on each of the outstanding debentures in 2020, subject to the notice requirement. No material exercises were made in 2020 or 2019.

At 31 December long-term debt excluding current maturities consisted of:

	2020 $m	2019 $m
2.900% Senior notes due 2021 [(1)]	—	299.1
9.000% Debentures due 2021 [(2)]	—	124.9
4.250% Senior notes due 2023	698.4	697.8
7.200% Debentures due 2020-2025	29.9	37.3
3.550% Senior notes due 2024	497.3	496.6
6.480% Debentures due 2025	149.7	149.7
3.500% Senior notes due 2026	397.3	396.8
3.750% Senior notes due 2028	545.6	545.1
3.800% Senior notes due 2029	744.4	743.6
5.750% Senior notes due 2043	494.7	494.5
4.650% Senior notes due 2044	296.1	295.9
4.300% Senior notes due 2048	296.2	296.0
4.500% Senior notes due 2049	345.7	345.5
Other loans and notes	1.2	0.1
Total	4,496.5	4,922.9

[(1)] The 2.900% Senior notes are due in February 2021 and have been reclassified from noncurrent to current.
[(2)] The 9.000% Debentures are due in August 2021 and have been reclassified from noncurrent to current.

Scheduled maturities of long-term debt, including current maturities, as of 31 December 2020 are as follows:

	$m
2021	775.6
2022	7.9
2023	706.3
2024	505.1
2025	157.2
Thereafter	3,120.0
Total	5,272.1

Issuance of Senior Notes

In March 2019, the Group issued $1.5 billion principal amount of senior notes in three tranches through Trane Technologies Luxembourg Finance S.A., an indirect, wholly-owned subsidiary. The tranches consist of $400 million aggregate principal amount of 3.500% senior notes due 2026, $750 million aggregate principal amount of 3.800% senior notes due 2029 and $350 million aggregate principal amount of 4.500% senior notes due 2049. The notes are fully and unconditionally guaranteed by each of Trane Technologies plc, Trane Technologies Irish Holdings Unlimited Company, Trane Technologies Lux International Holding Company S.à.r.l, Trane Technologies Global Holding Company Limited, Trane Technologies HoldCo Inc. and Trane Technologies Company LLC. The Company has the option to redeem the notes in whole or in part at any time, prior to their stated maturity date at redemption prices set forth in the indenture agreement. The notes are subject to certain customary covenants, however, none of these covenants are considered restrictive to the Group's operations.

Other Credit Facilities

On 4 June 2020, the Group entered into a new $1.0 billion senior unsecured revolving credit facility which matures in March 2022 and terminated its $1.0 billion facility set to expire in March 2021. As a result, the Group maintains two $1.0 billion senior unsecured revolving credit facilities, one of which matures in March 2022 and the other in April 2023 (the Facilities) through its wholly-owned subsidiaries, Trane Technologies HoldCo Inc., Trane Technologies Global Holding Company Limited and Trane Technologies Luxembourg Finance S.A. (collectively, the Borrowers). Each senior unsecured credit facility provides support for the Group's commercial paper program and can be used for working capital and other general corporate purposes. Trane Technologies plc, Trane Technologies Irish Holdings Unlimited Company, Trane Technologies Lux International Holding Company S.à.r.l. and Trane Technologies Company LLC each provide irrevocable and unconditional guarantees for these Facilities. In addition, each Borrower will guarantee the obligations under the Facilities of the other Borrower. Total commitments of $2.0 billion were unused at 31 December 2020 and 31 December 2019.

Fair Value of Debt

The Group considers the carrying value of short-term borrowings to be a reasonable estimate of the fair value due to the short-term nature of the instruments. The fair value of the Group's debt instruments at 31 December 2020 and 31 December 2019 was $6.3 billion and $6.2 billion, respectively. The Group measures the fair value of its long-term debt instruments for disclosure purposes based upon observable market prices quoted on public exchanges for similar assets. These fair value inputs are considered Level 2 within the fair value hierarchy.

27. FINANCIAL INSTRUMENTS

In the normal course of business, the Group is exposed to certain risks arising from business operations and economic factors. These fluctuations can increase the cost of financing, investing and operating the business. The Group may use various financial instruments, including derivative instruments, to manage the risks associated with interest rate and currency rate exposures. These financial instruments are not used for trading or speculative purposes. The Group recognizes all derivatives on the Consolidated Balance Sheet at their fair value as either assets or liabilities.

On the date a derivative contract is entered into, the Group designates the derivative instrument as a cash flow hedge of a forecasted transaction or as an undesignated derivative. The Group formally documents its hedge relationships, including identification of the derivative instruments and the hedged items, as well as its risk management objectives and strategies for undertaking the hedge transaction. This process includes linking derivative instruments that are designated as hedges to specific assets, liabilities or forecasted transactions.

The Group assesses at inception and at least quarterly thereafter, whether the derivatives used in cash flow hedging transactions are highly effective in offsetting the changes in the cash flows of the hedged item. To the extent the derivative is deemed to be a highly effective hedge, the fair market value changes of the instrument are recorded to *Other reserves*. If the hedging relationship ceases to be highly effective, or it becomes probable that a forecasted transaction is no longer expected to occur, the hedging relationship will be undesignated and any future gains and losses on the derivative instrument will be recorded in *Profit for the financial year.*

The fair values of derivative instruments included within the Consolidated Balance Sheet as of 31 December were as follows:

	Derivative assets		Derivative liabilities	
	2020	2019	2020	2019
	$m	$m	$m	$m
Derivatives designated as hedges:				
Currency derivatives	0.7	0.1	1.7	3.9
Derivatives not designated as hedges:				
Currency derivatives	1.5	1.0	4.8	3.3
Total derivatives	2.2	1.1	6.5	7.2

Asset and liability derivatives included in the table above are recorded within *Debtors* and *Creditors: Amounts falling due within one year*, respectively.

Currency Hedging Instruments

The notional amount of the Group's currency derivatives was $0.5 billion at both 31 December 2020 and 2019, respectively. At 31 December 2020 and 2019, a net loss of $0.7 million and a net gain of $2.9 million, net of tax, respectively, was included in Other reserves related to the fair value of the Group’s currency derivatives designated as accounting hedges. The amount expected to be reclassified into *Profit for the financial year* over the next twelve months is a loss of $0.6 million. The actual amounts that will be reclassified to *Profit for the financial year* may vary from this amount as a result of changes in market conditions. Gains and losses associated with the Group’s currency derivatives not designated as hedges are recorded in *Profit for the financial year* as changes in fair value occur. At 31 December 2020, the maximum term of the Group’s currency derivatives was approximately 12 months, except for currency derivatives in place related to a long-term contract.

Other Derivative Instruments

In the past, the Group utilized forward-starting interest rate swaps and interest rate locks to manage interest rate exposure in periods prior to the anticipated issuance of certain fixed-rate debt. These instruments were designated as cash flow hedges and had a notional amount of $1.3 billion. Consequently, when the contracts were settled upon the issuance of the underlying debt, any realized gains or losses in the fair values of the instruments were initially deferred into *Other reserves*. These deferred gains or losses are subsequently recognized in *Interest payable and similar charges* over the term of the related notes. The net unrecognized gain in *Other reserves* was $5.3 million and $6.0 million at 31 December 2020 and 2019. The deferred gain at 31 December 2020 will be amortized over the term of notes with maturities ranging from 2023 to 2044. The amount expected to be amortized over the next twelve months is a net gain of $0.7 million. The Group has no forward-starting interest rate swaps or interest rate lock contracts outstanding at 31 December 2020 or 2019.

The following table represents the amounts associated with derivatives designated as hedges affecting *Profit on ordinary activities before taxation* and *Other reserves* for the year ended 31 December:

	Amount of gain (loss) recognized in Other reserves		Location of gain (loss) reclassified from Other reserves and recognized into Profit on ordinary activities before taxation	Amount of gain (loss) reclassified from Other reserves and recognized into Profit for the financial year	
	2020	2019		2020	2019
	$m	$m		$m	$m
Currency derivatives - continuing	3.3	(2.5)	Cost of sales	(2.6)	(1.5)
Currency derivatives - discontinued	—	(0.2)	Discontinued operations	—	0.1
Interest rate swaps & locks	—	—	Interest payable and similar charges	0.7	0.7
Total	3.3	(2.7)		(1.9)	(0.7)

The following table represents the amounts associated with derivatives not designated as hedges affecting *Profit for the financial year* for the years ended 31 December:

		Amount of gain (loss) recognized in Profit after taxation	
		2020	2019
		$m	$m
Currency derivatives - continuing	Other operating expense	7.5	(5.2)
Currency derivatives - discontinued	Discontinued operations	(0.4)	(1.2)
Total		7.1	(6.4)

The gains and losses associated with the Group's undesignated currency derivatives are materially offset in *Profit for the financial year* by changes in the fair value of the underlying transactions.

The following table presents the effects of the Group's designated financial instruments on the associated financial statement line item within the Consolidated Profit and Loss Account where the financial instruments are recorded for the years ended:

	Classification and amount of gain (loss) recognized in income on cash flow hedging relationships			
	2020		2019	
	$m	$m	$m	$m
	Cost of sales	Interest payable	Cost of sales	Interest payable
Total amounts presented in the Consolidated Profit and Loss Account	(8,651.3)	(248.7)	(9,085.5)	(242.8)
Gain (loss) on cash flow hedging relationships				
Currency derivatives:				
Amount of gain (loss) reclassified from Other reserves and recognized into the Profit for the financial year	(2.6)	—	(1.5)	—
Amount excluded from effectiveness testing recognized in Profit for the financial year based on changes in fair value and amortization	(2.1)	—	(3.0)	—
Interest rate swaps & locks:				
Amount of gain (loss) reclassified from Other reserves and recognized into Profit for the financial year	—	0.7	—	0.7

For the year ended 31 December 2019, the amount of gain (loss) reclassified from AOCI and recognized into *Profit for the financial year* also included a gain of $0.1 million related to the historical results of Ingersoll Rand Industrial. The gains were recorded within *Discontinued operations, net of tax.*

Concentration of Credit Risk

The counterparties to the Group's forward contracts consist of a number of investment grade major international financial institutions. The Group could be exposed to losses in the event of nonperformance by the counterparties. However, the credit ratings and the concentration of risk in these financial institutions are monitored on a continuous basis and present no significant credit risk to the Group.

28. FAIR VALUE MEASUREMENTS

ASC 820, "Fair Value Measurement," (ASC 820) defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820 also establishes a three-level fair value hierarchy that prioritizes information used in developing assumptions when pricing an asset or liability as follows:

- *Level 1:* Observable inputs such as quoted prices in active markets;
- *Level 2:* Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- *Level 3:* Unobservable inputs where there is little or no market data, which requires the reporting entity to develop its own assumptions.

ASC 820 requires the use of observable market data, when available, in making fair value measurements. When inputs used to measure fair value fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement.

The following table presents the Group's fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis as of 31 December 2020:

		Fair value measurements		
	Fair Value	**Level 1**	**Level 2**	**Level 3**
	$m	**$m**	**$m**	**$m**
Assets:				
Derivative instruments	2.2	—	2.2	—
Liabilities:				
Derivative instruments	6.5	—	6.5	—

The following table presents the Group's fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis as of 31 December 2019:

		Fair value measurements		
	Fair Value	**Level 1**	**Level 2**	**Level 3**
	$m	**$m**	**$m**	**$m**
Assets:				
Derivative instruments	1.1	—	1.1	—
Liabilities:				
Derivative instruments	7.2	—	7.2	—

Derivative instruments include forward foreign currency contracts and instruments related to non-functional currency balance sheet exposures. The fair value of the derivative instruments are determined based on a pricing model that uses spot rates and forward prices from actively quoted currency markets that are readily accessible and observable.

The carrying values of cash at bank and in hand, debtors, and creditors are a reasonable estimate of their fair value due to the short-term nature of these instruments. There have been no transfers between levels of the fair value hierarchy.

29. PENSIONS AND POST-RETIREMENT BENEFITS OTHER THAN PENSIONS

The Group sponsors several U.S. defined benefit and defined contribution plans covering substantially all of the Group's U.S. employees. Additionally, the Group has many non-U.S. defined benefit and defined contribution plans covering eligible non-U.S. employees. Postretirement benefits other than pensions (OPEB) provide healthcare benefits, and in some instances, life insurance benefits for certain eligible employees.

Pension Plans

The noncontributory defined benefit pension plans covering non-collectively bargained U.S. employees provide benefits on a final average pay formula while plans for most collectively bargained U.S. employees provide benefits on a flat dollar benefit formula or a percentage of pay formula. The non-U.S. pension plans generally provide benefits based on earnings and years of service. The Group also maintains additional other supplemental plans for officers and other key or highly compensated employees.

In connection with completion of the Transaction, the Group transferred certain pension obligations for current and former employees of Ingersoll Rand Industrial to Gardner Denver. The transfer of these obligations reduced pension liabilities by $486.2 million, pension assets by $351.7 million and AOCI by $111.3 million.

The following table details information regarding the Group’s pension plans at 31 December:

	2020	2019
	$m	$m
Change in benefit obligations:		
Benefit obligation at 1 January	3,851.2	3,465.3
Service cost	58.3	73.6
Interest cost	83.8	119.1
Employee contributions	1.0	1.1
Amendments	1.9	5.7
Actuarial (gains) losses [1]	317.7	422.8
Benefits paid	(189.2)	(225.3)
Currency translation	43.8	9.0
Curtailments, settlements and special termination benefits	(7.8)	(3.1)
Impact of the Transaction	(486.2)	—
Other, including expenses paid	(11.7)	(17.0)
Benefit obligation at 31 December	3,662.8	3,851.2
Change in plan assets:		
Fair value at 1 January	3,136.8	2,766.9
Actual return on assets	395.6	526.1
Group contributions	99.7	83.1
Employee contributions	1.0	1.1
Benefits paid	(189.2)	(225.3)
Currency translation	39.5	12.0
Settlements	(7.8)	(5.3)
Impact of the Transaction	(351.7)	—
Other, including expenses paid	(9.3)	(21.8)
Fair value of assets at 31 December	3,114.6	3,136.8
Net unfunded liability	(548.2)	(714.4)
Amounts included in the balance sheet:		
Debtors: amounts falling due after more than one year	72.8	50.0
Assets held-for-sale	—	0.3
Provisions for liabilities	(22.9)	(7.2)
Pensions & similar obligations	(598.1)	(617.3)
Liabilities held-for-sale	—	(140.2)
Net amount recognized	(548.2)	(714.4)

[1] Actuarial (gains) losses primarily resulted from changes in discount rates

It is the Group’s objective to contribute to the pension plans to ensure adequate funds, and no less than required by law, are available in the plans to make benefit payments to plan participants and beneficiaries when required. However, certain plans are not or cannot be funded due to either legal, accounting or tax requirements in certain jurisdictions. As of 31 December 2020, approximately seven percent of the Group's projected benefit obligation relates to plans that cannot be funded.

The pretax amounts recognized in *Other reserves* are as follows:

	Prior service benefit (cost)	Net actuarial gains (losses)	Total
	$m	$m	$m
At 1 January 2020	(32.4)	(800.2)	(832.6)
Current year changes recorded to Other reserves	(1.9)	(43.2)	(45.1)
Amortization reclassified to earnings	5.3	43.7	49.0
Settlements/curtailments reclassified to earnings	—	(1.8)	(1.8)
Impact of the Transaction	1.3	110.0	111.3
Currency translation and other	(0.6)	(9.8)	(10.4)
At 31 December 2020	(28.3)	(701.3)	(729.6)

Weighted-average assumptions used to determine the benefit obligation at 31 December are as follows:

	2020	2019
Discount rate:		
U.S. plans	2.52 %	3.22 %
Non-U.S. plans	1.27 %	1.66 %
Rate of compensation increase:		
U.S. plans	4.00 %	4.00 %
Non-U.S. plans	3.75 %	3.75 %

The accumulated benefit obligation for all defined benefit pension plans was $3,566.4 million and $3,734.5 million at 31 December 2020 and 2019, respectively. The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for pension plans with accumulated benefit obligations more than plan assets were $3,128.7 million, $3,043.9 million and $2,510.9 million, respectively, as of 31 December 2020, and $3,405.7 million, $3,308.2 million and $2,645.1 million, respectively, as of 31 December 2019.

Pension benefit payments are expected to be paid as follows:

	$m
2021	210.7
2022	204.5
2023	207.1
2024	200.7
2025	246.6
2026-2030	960.9

The components of the Group's net periodic pension benefit costs for the years ended 31 December include the following:

	2020 $m	2019 $m
Service cost	58.3	73.6
Interest cost	83.8	119.1
Expected return on plan assets	(121.1)	(138.5)
Net amortization of:		
Prior service costs (benefits)	5.3	5.0
Plan net actuarial (gains) losses	43.7	54.3
Net periodic pension benefit cost	70.0	113.5
Net curtailment, settlement, and special termination benefits (gains) losses	(1.8)	4.5
Net periodic pension benefit cost after net curtailment and settlement (gains) losses	68.2	118.0
Amounts recorded in continuing operations:		
Operating profit	51.7	58.8
Other operating expense, net	11.7	31.8
Amounts recorded in discontinued operations	4.8	27.4
Total	68.2	118.0

Pension benefit cost for 2021 is projected to be approximately $51 million.

Weighted-average assumptions used to determine net periodic pension cost for the years ended 31 December are as follows:

	2020	2019
Discount rate:		
U.S. plans		
Service cost	3.36 %	4.24 %
Interest cost	2.78 %	3.88 %
Non-U.S. plans		
Service cost	1.87 %	2.81 %
Interest cost	1.51 %	2.83 %
Rate of compensation increase:		
U.S. plans	4.00 %	4.00 %
Non-U.S. plans	3.75 %	4.00 %
Expected return on plan assets:		
U.S. plans	4.75 %	5.75 %
Non-U.S. plans	2.75 %	3.25 %

The expected long-term rate of return on plan assets reflects the average rate of returns expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. The expected long-term rate of return on plan assets is based on what is achievable given the plan's investment policy, the types of assets held and target asset allocations. The expected long-term rate of return is determined as of the measurement date. The Group reviews each plan and its historical returns and target asset allocations to determine the appropriate expected long-term rate of return on plan assets to be used.

The Group's objective in managing its defined benefit plan assets is to ensure that all present and future benefit obligations are met as they come due. It seeks to achieve this goal while trying to mitigate volatility in plan funded status, contribution, and expense by better matching the characteristics of the plan assets to that of the plan liabilities. The Group utilizes a dynamic approach to asset allocation whereby a plan's allocation to fixed income assets increases as the plan's funded status improves. The Group monitors plan funded status and asset allocation regularly in addition to investment manager performance.

The fair values of the Group's pension plan assets at 31 December 2020 by asset category are as follows:

	Fair value measurements			Net asset value	Total fair value
	Level 1	Level 2	Level 3		
	$m	$m	$m	$m	$m
Cash at bank and in hand	3.1	34.2	—	—	37.3
Equity investments:					
Registered mutual funds - equity specialty	—	—	—	65.1	65.1
Commingled funds – equity specialty	—	—	—	622.0	622.0
	—	—	—	687.1	687.1
Fixed income investments:					
U.S. government and agency obligations	—	504.7	—	—	504.7
Corporate and non-U.S. bonds[(a)]	—	1,424.2	—	—	1,424.2
Asset-backed and mortgage-backed securities	—	48.4	—	—	48.4
Registered mutual funds - fixed income specialty	—	—	—	118.3	118.3
Commingled funds – fixed income specialty	—	—	—	153.3	153.3
Other fixed income[(b)]	—	—	28.3	—	28.3
	—	1,977.3	28.3	271.6	2,277.2
Derivatives	—	0.3	—	—	0.3
Real estate[(c)]	—	—	2.8	—	2.8
Other[(d)]	—	—	112.3	—	112.3
Total assets at fair value	3.1	2,011.8	143.4	958.7	3,117.0
Receivables and payables, net					(2.4)
Net assets available for benefits					3,114.6

The fair values of the Group's pension plan assets at 31 December 2019 by asset category are as follows:

	Fair value measurements			Net asset value	Total fair value
	Level 1	Level 2	Level 3		
	$m	$m	$m	$m	$m
Cash at bank and in hand	7.0	26.3	—	—	33.3
Equity investments:					
Registered mutual funds - equity specialty	—	—	—	61.5	61.5
Commingled funds – equity specialty	—	—	—	665.2	665.2
	—	—	—	726.7	726.7
Fixed income investments:					
U.S. government and agency obligations	—	528.5	—	—	528.5
Corporate and non-U.S. bonds[(a)]	—	1,393.0	0.4	—	1,393.4
Asset-backed and mortgage-backed securities	—	70.9	—	—	70.9
Registered mutual funds - fixed income specialty	—	—	—	103.3	103.3
Commingled funds – fixed income specialty	—	—	—	127.6	127.6
Other fixed income[(b)]	—	—	26.0	—	26.0
	—	1,992.4	26.4	230.9	2,249.7
Derivatives	—	0.4	—	—	0.4
Real estate[(c)]	—	—	3.4	—	3.4
Other[(d)]	—	—	114.1	—	114.1
Total assets at fair value	7.0	2,019.1	143.9	957.6	3,127.6
Receivables and payables, net					9.2
Net assets available for benefits					3,136.8

(a) This class includes state and municipal bonds.
(b) This class includes group annuity and guaranteed interest contracts.
(c) This class includes a private equity fund that invests in real estate.
(d) This investment comprises the Group's non-US pension plan assets. It primarily includes insurance contracts.

Cash at bank and in hand is valued using a market approach with inputs including quoted market prices for either identical or similar instruments. Fixed income securities are valued through a market approach with inputs including, but not limited to, benchmark yields, reported trades, broker quotes and issuer spreads. Commingled funds are valued at their daily net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient. NAVs are calculated by the investment manager or sponsor of the fund. Private real estate fund values are reported by the fund manager and are based on valuation or appraisal of the underlying investments. Refer to Note 28, "Fair Value Measurements" for additional information related to the fair value hierarchy defined by ASC 820. There have been no significant transfers between levels of the fair value hierarchy.

The Group made required and discretionary contributions to its pension plans of $99.7 million in 2020 and $83.1 million in 2019 and currently projects that it will contribute approximately $56 million to its plans worldwide in 2021. The contribution in 2020 includes $24.4 million to fund Ingersoll Rand Industrial plans prior to the completion of the Transaction. The Group's policy allows it to fund an amount, which could be in excess of or less than the pension cost expensed, subject to the limitations imposed by current tax regulations. However, the Group anticipates funding the plans in 2021 in accordance with contributions required by funding regulations or the laws of each jurisdiction.

Most of the Group's U.S. employees are covered by defined contribution plans. Employer contributions are determined based on criteria specific to the individual plans and amounted to approximately $111.0 million and $140.2 million in 2020 and 2019, respectively. The Group's contributions relating to non-U.S. defined contribution plans and other non-U.S. benefit plans were $19.2 million and $56.7 million in 2020 and 2019, respectively.

Multiemployer Pension Plans

The Group also participates in a number of multiemployer defined benefit pension plans related to collectively bargained U.S. employees of Trane. The Group's contributions, and the administration of the fixed retirement payments, are determined by the terms of the related collective-bargaining agreements. These multiemployer plans pose different risks to the Group than single-employer plans, including:

1. The Group's contributions to multiemployer plans may be used to provide benefits to all participating employees of the program, including employees of other employers.
2. In the event that another participating employer ceases contributions to a plan, the Group may be responsible for any unfunded obligations along with the remaining participating employers.
3. If the Group chooses to withdraw from any of the multiemployer plans, the Group may be required to pay a withdrawal liability, based on the underfunded status of the plan.

As of 31 December 2020, the Group does not participate in any plans that are individually significant, nor is the Group an individually significant participant to any of these plans.

Post-retirement Benefits Other Than Pensions

The Group sponsors several postretirement plans that provide for healthcare benefits, and in some instances, life insurance benefits that cover certain eligible employees. These plans are unfunded and have no plan assets, but are instead funded by the Group on a pay-as-you-go basis in the form of direct benefit payments. Generally, postretirement health benefits are contributory with contributions adjusted annually. Life insurance plans for retirees are primarily noncontributory.

In connection with the completion of the Transaction, the Group transferred certain postretirement benefit obligations for current and former employees of Ingersoll Rand Industrial to Gardner Denver. The transfer of these obligations reduced postretirement plan liabilities by $28.7 million and increased AOCI by $5.5 million.

The following table details changes in the Group's postretirement plan benefit obligations for the years ended 31 December:

	2020	2019
	$m	$m
Benefit obligation at 1 January	428.8	442.7
Service cost	2.4	2.6
Interest cost	9.7	14.8
Plan participants' contributions	8.2	7.7
Actuarial (gains) losses	9.3	6.7
Benefits paid, net of Medicare Part D subsidy [1]	(39.9)	(45.6)
Impact of the Transaction	(28.7)	—
Other	(0.7)	(0.1)
Benefit obligations at 31 December	389.1	428.8

[1] Net actuarial losses primarily resulted from losses driven by changes in discount rates offset by gains driven by changes in per capita cost assumptions.

[2] Amounts are net of Medicare Part D subsidy of $0.7 million and $0.8 million in 2020 and 2019, respectively

The benefit plan obligations are reflected in the Consolidated Balance Sheets as follows:

	31 December 2020	31 December 2019
	$m	$m
Creditors - Amounts falling due within one year	(37.1)	(38.3)
Creditors - Amounts falling due after more than one year	(352.0)	(361.3)
Liabilities held-for-sale	—	(29.2)
Total	(389.1)	(428.8)

The pretax amounts recognized in *Other reserves* were as follows:

	Net actuarial gains (losses)
	$m
Balance at 1 January 2020	72.8
Gain (loss) in current period	(9.3)
Amortization reclassified to earnings	(5.6)
Impact of the Transaction	(5.5)
Balance at 31 December 2020	52.4

The components of net periodic post-retirement benefit (income) cost for the years ended 31 December were as follows:

	2020 $m	2019 $m
Service cost	2.4	2.6
Interest cost	9.7	14.8
Net amortization of:		
Prior service costs (benefits)	—	(0.3)
Net actuarial (gains) losses	(5.6)	(10.9)
Net periodic post-retirement benefit cost	6.5	6.2
Amounts recorded in continuing operations:		
Operating profit	2.4	2.5
Other operating expense, net	3.0	3.1
Amounts recorded in discontinued operations	1.1	0.6
Total	6.5	6.2

Postretirement cost for 2021 is projected to be approximately $6 million. The amount expected to be recognized in net periodic postretirement benefits cost in 2021 for net actuarial gains is approximately $2 million.

Weighted-average assumptions used to determine net periodic benefit cost for the years ended 31 December are as follows:

	2020	2019
Discount rate:		
Benefit obligations at 31 December	2.25 %	2.99 %
Net periodic benefit cost		
Service cost	3.18 %	4.13 %
Interest cost	2.73 %	3.67 %
Assumed health-care cost trend rates at 31 December:		
Current year medical inflation	6.50 %	6.75 %
Ultimate inflation rate	4.75 %	4.75 %
Year that the rate reaches the ultimate trend rate	2028	2028

Benefit payments for post-retirement benefits, which are net of expected plan participant contributions and Medicare Part D subsidy, are expected to be paid as follows:

	$m
2021	37.1
2022	35.8
2023	33.7
2024	31.7
2025	29.9
2026 — 2030	121.7

30. PROVISIONS FOR LIABILITIES

	2020	2019
	$m	$m
Pensions & similar obligations	1,149.0	1,141.4
Taxation including deferred taxation	583.7	573.9
Other provisions	1,006.0	1,267.6
	2,738.7	2,982.9

The movement on other provisions were as follows:

	Asbestos (a)	Standard Warranty (a)	Extended Warranty (a)	Environmental (a)	Restructuring	Insurance	Chapter 11 funding liability	Other	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
1 January 2020	547.4	251.4	302.8	40.2	25.4	91.9	—	8.5	1,267.6
Arising during the year	—	144.6	123.7	—	71.7	16.9	248.8	0.6	606.3
Utilised in the year	(39.3)	(130.5)	(123.6)	(6.5)	(67.6)	(16.0)	—	(0.8)	(384.3)
Changes to pre-existing accruals	—	14.9	—	6.2	—	—	—	(0.2)	20.9
Deconsolidation of certain entities under Chapter 11	(508.1)	—	—	—	—	—	—	—	(508.1)
Currency translation	—	2.3	1.5	—	—	—	—	(0.2)	3.6
31 December 2020	—	282.7	304.4	39.9	29.5	92.8	248.8	7.9	1,006.0
Analysed by:									
Current	—	127.7	108.6	6.7	29.5	17.9	—	7.9	298.3
Non-current	—	155.0	195.8	33.2	—	74.9	248.8	—	707.7
31 December 2020	—	282.7	304.4	39.9	29.5	92.8	248.8	7.9	1,006.0

(a) See Note 31 to the Consolidated Financial Statements for additional information of these provisions.

31. COMMITMENTS AND CONTINGENCIES

The Group is involved in various litigations, claims and administrative proceedings, including those related to environmental, asbestos, and product liability matters. In accordance with ASC 450, "Contingencies" (ASC 450), the Group records accruals for loss contingencies when it is both probable that a liability will be incurred and the amount of the loss can be reasonably estimated. Amounts recorded for identified contingent liabilities are estimates, which are reviewed periodically and adjusted to reflect additional information when it becomes available. Subject to the uncertainties inherent in estimating future costs for contingent liabilities, except as expressly set forth in this note, management believes that any liability which may result from these legal matters would not have a material adverse effect on the financial condition, results of operations, liquidity or cash flows of the Group.

Asbestos-Related Matters

Certain wholly-owned subsidiaries and former companies of the Group were named as defendants in asbestos-related lawsuits in state and federal courts. In virtually all of the suits, a large number of other companies have also been named as defendants. The vast majority of those claims were filed against predecessors of Aldrich and Murray and generally allege injury caused by exposure to asbestos contained in certain historical products sold by predecessors of Aldrich or Murray, primarily pumps, boilers and railroad brake shoes. None of the Group's existing or previously-owned businesses were a producer or manufacturer of asbestos.

On 18 June 2020, Aldrich and Murray filed voluntary petitions for relief under Chapter 11 of the Bankruptcy Code to resolve equitably and permanently all current and future asbestos related claims in a manner beneficial to claimants, Aldrich and Murray. As a result of the Chapter 11 filings, all asbestos-related lawsuits against Aldrich and Murray have been stayed due to the imposition of a statutory automatic stay applicable in Chapter 11 bankruptcy cases. In addition, at the request of Aldrich and Murray, the Bankruptcy Court has entered an order temporarily staying all asbestos-related claims against the Trane Companies that relate to claims against Aldrich or Murray (except for asbestos-related claims for which the exclusive remedy is provided under workers' compensation statutes or similar laws).

The goal of these Chapter 11 filings is an efficient and permanent resolution of all current and future asbestos claims through court approval of a plan of reorganization, which would establish, in accordance with section 524(g) of the Bankruptcy Code, a trust to which all asbestos claims would be channeled for resolution. Aldrich and Murray intend to seek an agreement with representatives of the asbestos claimants on the terms of a plan for the establishment of such a trust.

Prior to the Petition Date, predecessors of each of Aldrich and Murray had been litigating asbestos-related claims brought against them. No such claims have been paid since the Petition Date, and it is not contemplated that any such claims will be paid until the end of the Chapter 11 cases. At this point in the Chapter 11 cases of Aldrich and Murray, it is not possible to predict whether or how long the Bankruptcy Court order temporarily staying asbestos-related claims against the Trane Companies will be extended, whether or when any agreement with representatives of the asbestos claimants on the terms of a plan for the establishment of a trust will be reached, what the terms of any plan of reorganization or the extent of the asbestos liability will be or how long the Chapter 11 cases will last.

From an accounting perspective, the Group no longer has control over Aldrich and Murray as of the Petition Date as their activities are subject to review and oversight by the Bankruptcy Court. Therefore, Aldrich and its wholly-owned subsidiary 200 Park and Murray and its wholly-owned subsidiary ClimateLabs were deconsolidated as of the Petition Date and their respective assets and liabilities were derecognized from the Group's Condensed Consolidated Financial Statements. Amounts derecognized primarily related to the legacy asbestos-related liabilities and asbestos-related insurance recoveries and $41.7 million of cash. However, in connection with the 2020 Corporate Restructuring, certain subsidiaries of the Group entered into funding agreements with Aldrich and Murray (collectively the Funding Agreements), pursuant to which those subsidiaries are obligated, among other things, to pay the costs and expenses of Aldrich and Murray during the pendency of the Chapter 11 cases to the extent distributions from their respective subsidiaries are insufficient to do so and to provide an amount for the funding for a trust established pursuant to section 524(g) of the Bankruptcy Code, to the extent that the other assets of Aldrich and Murray are insufficient to provide the requisite trust funding.

Accounting Treatment Prior to the Petition Date

Historically, the Group performed a detailed analysis and projected an estimated range of the Group’s total liability for pending and unasserted future asbestos-related claims. In accordance with ASC 450, the Group recorded the liability at the low end of the range as it believed that no amount within the range was a better estimate than any other amount. Asbestos-related defense costs were excluded from the liability and were recorded separately as services were incurred. The methodology used to prepare estimates relied upon and included the following factors, among others:

- the interpretation of a widely accepted forecast of the population likely to have been occupationally exposed to asbestos;
- epidemiological studies estimating the number of people likely to develop asbestos-related diseases such as mesothelioma and lung cancer;
- the Group’s historical experience with the filing of non-malignancy claims and claims alleging other types of malignant diseases filed against the Group relative to the number of lung cancer claims filed against the Group;
- the analysis of the number of people likely to file an asbestos-related personal injury claim against the Group based on such epidemiological and historical data and the Group’s claims history;
- an analysis of the Group’s pending cases, by type of disease claimed and by year filed;
- an analysis of the Group’s history to determine the average settlement and resolution value of claims, by type of disease claimed;
- an adjustment for inflation in the future average settlement value of claims, at a 2.5% annual inflation rate, adjusted downward to 1.0% to take account of the declining value of claims resulting from the aging of the claimant population; and
- an analysis of the period over which the Group has and is likely to resolve asbestos-related claims against it in the future (currently projected through 2053).

Prior to the Petition Date and at 31 December 2019, over 73 percent of the open claims against the Group were non-malignant or unspecified disease claims. In addition, the Group had a number of claims which had been placed on inactive or deferred dockets and expected to have little or no settlement value against the Group.

At 17 June 2020, immediately prior to the Petition Date, and at 31 December 2019, the Group's liability for asbestos-related matters and the asset for probable asbestos-related insurance recoveries are included in the following accounts within the Consolidated Balance Sheet:

	17 June 2020	31 December 2019
	$m	$m
Other provisions - current	57.1	63.0
Other provisions - non-current liabilities	451.0	484.4
Total asbestos-related liabilities	508.1	547.4
Other debtors	50.3	66.2
Other debtors - amount falling due after more than one year	220.6	237.8
Total asset for probable asbestos-related insurance recoveries	270.9	304.0

The Group's asbestos insurance receivable related to the predecessors of Aldrich and Murray were were $160.4 million and $110.5 million, respectively, at 17 June 2020 and $188.7 million and $115.3 million, respectively, at 31 December 2019. The receivable attributable to Trane for probable insurance recoveries as of 17 June 2020 and 31 December 2019 are entirely supported by settlement agreements between them and their respective insurance carriers. Most of these settlement agreements constitute "coverage-in-place" arrangements, in which the insurer signatories agree to reimburse the predecessors of Aldrich and Murray, as applicable, for specified portions of their respective costs for asbestos bodily injury claims and the predecessors of Aldrich and Murray, as applicable, agree to certain claims-handling protocols and grants to the insurer signatories certain releases and indemnifications.

Prior to the Petition Date, the costs associated with the settlement and defense of asbestos-related claims, insurance settlements on asbestos-related matters and the revaluation of the Group's liability for potential future claims and recoveries were included in the Consolidated Profit and Loss Account within continuing operations or discontinued operations depending on the business to which they relate. Income and expenses associated with asbestos-related matters of Aldrich and its predecessors were recorded within discontinued operations as they related to previously divested businesses, primarily Ingersoll-Dresser Pump, which was sold by the Group in 2000. Income and expenses associated with asbestos-related matters for Murray and its predecessors were recorded within *Other operating expense* as part of continuing operations. The year ended 31 December 2020 includes a $17.4 million adjustment to correct an overstatement of a legacy legal liability that originated in prior years.

The income (expense) associated with these pre-Petition transactions for the years ended 31 December, were as follows:

	2020	2019
	$m	$m
Continuing operations	14.8	7.0
Discontinued operations	(11.2)	68.2
Total	3.6	75.2

The amounts recorded by the Group for asbestos-related liabilities and insurance-related assets are based on currently available information. Key assumptions underlying the estimated asbestos-related liabilities include the number of people occupationally exposed and likely to develop asbestos-related diseases such as mesothelioma and lung cancer, the number of people likely to file an asbestos-related personal injury claim against the Group, the average settlement and resolution of each claim and the percentage of claims resolved with no payment. Furthermore, predictions with respect to estimates of the liability are subject to greater uncertainty as the projection period lengthens. Other factors that may affect the Group's liability include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms that may be made by state and federal courts, and the passage of state or federal tort reform legislation.

The aggregate amount of the stated limits in insurance policies available to Aldrich and Murray for asbestos-related claims acquired, over many years and from many different carriers, is substantial. However, as a result of limitations in that coverage, the projected total liability to claimants substantially exceeds the probable insurance recovery.

Accounting Treatment After the Petition Date

Upon deconsolidation, the Group recorded its retained interest in Aldrich and Murray at fair value within *Financial assets* in the Consolidated Balance Sheet. In determining the fair value of its equity investment, the Group used a market-adjusted multiple of earnings valuation technique (a market approach). Under the market approach, the Group used an adjusted multiple ranging from 11.0 to 12.5 of projected profit before interest, taxes, depreciation and amortization (EBITDA) based on the market information of comparable companies. As a result, the Group recorded an aggregate equity investment of $53.6 million as of the Petition Date. Subsequent to deconsolidation, the Group will account for its equity investment in Aldrich and Murray at cost less impairment under the measurement alternative election in ASC 321, "Investments - Equity Securities".

Simultaneously, the Group recognized a liability of $248.8 million within *Provision for liabilities* in the Consolidated Balance Sheet related to its obligation under the Funding Agreements. Although the amounts that Aldrich and Murray may ultimately require under the Funding Agreements are unknown, the Group believes that an estimate of $248.8 million in the aggregate is reasonable at this time as the Group has no better estimate for the amounts that may ultimately be required under the Funding Agreement. The liability is based on asbestos-related liabilities and insurance-related assets balances previously recorded by the Group prior to the Petition Date and may be subject to change based on the facts and circumstances of the Chapter 11 proceedings.

As a result of these actions, the Group recognized an aggregate loss of $24.9 million in its Consolidated Profit and Loss Account. A gain of $0.9 million related to Murray and its wholly-owned subsidiary ClimateLabs was recorded within *Other operating expense* and a loss of $25.8 million related to Aldrich and its wholly-owned subsidiary 200 Park was recorded within *Discontinued operations, net of taxation*. Additionally, the deconsolidation resulted in an investing cash outflow of $41.7 million in the Group's Consolidated Statements of Cash Flows, of which $10.8 million was recorded within continuing operations.

Furthermore, in connection with the 2020 Corporate Restructuring, Aldrich, Murray and their respective subsidiaries entered into several agreements with subsidiaries of the Group to ensure they each have access to services necessary for the effective operation of their respective businesses and access to capital to address any liquidity needs that arise as a result of working capital requirements or timing issues. In addition, the Group regularly transacts business with Aldrich and its wholly-owned subsidiary 200 Park and Murray and its wholly-owned subsidiary ClimateLabs. As of the Petition Date, these entities are considered related parties and post deconsolidation activity between the Group and them are reported as third party transactions and are reflected within the Group's Consolidated Profit and Loss Account. Since the Petition Date, there were no material transactions between the Group and these entities.

Environmental Matters

The Group continues to be dedicated to environmental and sustainability programs to minimize the use of natural resources, and reduce the utilization and generation of hazardous materials from our manufacturing processes and to remediate identified environmental concerns. As to the latter, the Group is currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former manufacturing facilities.

The Group is sometimes a party to environmental lawsuits and claims and has received notices of potential violations of environmental laws and regulations from the Environmental Protection Agency and similar state authorities. It has also been identified as a potentially responsible party (PRP) for cleanup costs associated with off-site waste disposal at federal Superfund and state remediation sites. For all such sites, there are other PRPs and, in most instances, the Group's involvement is minimal.

In estimating its liability, the Group has assumed it will not bear the entire cost of remediation of any site to the exclusion of other PRPs who may be jointly and severally liable. The ability of other PRPs to participate has been taken into account, based on the Group's understanding of the parties' financial condition and probable contributions on a per site basis. Additional lawsuits and claims involving environmental matters are likely to arise from time to time in the future.

Reserves for environmental matters are classified as a *Provision for liabilities*. As of 31 December 2020 and 2019, the Group has recorded reserves for environmental matters of $39.9 million and $40.2 million, respectively. Of these amounts, $37.5 million relates to remediation of sites previously disposed by the Group.

Warranty Liability

Standard product warranty accruals are recorded at the time of sale and are estimated based upon product warranty terms and historical experience. The Group assesses the adequacy of its liabilities and will make adjustments as necessary based on known or anticipated warranty claims, or as new information becomes available.

The changes in the standard product warranty liability for the year ended 31 December, were as follows:

	2020 $m	2019 $m
Balance at beginning of period	251.4	245.6
Reductions for payments	(130.5)	(142.8)
Accruals for warranties issued during the current period	144.6	144.1
Changes to accruals related to preexisting warranties	14.9	5.1
Translation	2.3	(0.6)
Balance at end of period	282.7	251.4

Standard product warranty liabilities are classified as a *Provision for liabilities.* The Group's total current standard product warranty reserve at 31 December 2020 and 31 December 2019 was $127.7 million and $124.9 million, respectively.

Warranty Deferred Turnover

The Group's extended warranty liability represents the deferred income associated with its extended warranty contracts and is amortized into *Turnover* on a straight-line basis over the life of the contract, unless another method is more representative of the costs incurred. The Group assesses the adequacy of its liability by evaluating the expected costs under its existing contracts to ensure these expected costs do not exceed the extended warranty liability.

The changes in the extended warranty liability for the year ended 31 December, were as follows:

	2020 $m	2019 $m
Balance at beginning of period	302.8	290.6
Amortization of deferred income for the period	(123.6)	(120.9)
Additions for extended warranties issued during the period	123.7	133.5
Changes to accruals related to preexisting warranties	—	(0.4)
Translation	1.5	—
Balance at end of period	304.4	302.8

The extended warranty liability is classified as a *Provision for liabilities* based on the timing of when the deferred income is expected to be amortized into *Turnover*. The Group's total current extended warranty liability at 31 December 2020 and 31 December 2019 was $108.6 million and $107.3 million, respectively. For the years ended 31 December 2020 and 2019, the Group incurred costs of $61.0 million and $62.8 million, respectively, related to extended warranties.

32. SHARE-BASED COMPENSATION

The Company accounts for stock-based compensation plans in accordance with ASC 718, "Compensation - Stock Compensation" (ASC 718), which requires a fair-value based method for measuring the value of stock-based compensation. Fair value is measured once at the date of grant and is not adjusted for subsequent changes. The Group's share-based compensation plans include programs for stock options, restricted stock units (RSUs), performance share units (PSUs), and deferred compensation. Under the Company's incentive stock plan, the total number of ordinary shares authorized by the shareholders is 23.0 million (2019: 23.0 million), of which 15.7 million (2019: 19.1 million) remains available as of 31 December 2020 for future incentive awards.

In connection with the completion of the Transaction, the provisions of the Company's existing share-based compensation plans required adjustment to the terms of outstanding awards in order to preserve the intrinsic value of the awards immediately before and after the separation. The outstanding awards will continue to vest over the original vesting period, which is generally three years from the grant date.

The stock awards held as of 29 February 2020 were adjusted as follows:

- *Vested stock options* - Outstanding stock options that were vested and exercisable at the time of the Transaction were converted into vested and exercisable stock options of the Company. The number of underlying shares and exercise price for each award was adjusted to preserve the overall intrinsic value of the awards immediately prior to the Transaction.
- *Unvested stock options* - Unvested stock options held at the time of the Transaction were converted into stock options of the participants employer following the separation. The number of underlying shares and exercise price for each award was adjusted to preserve the overall intrinsic value of the awards immediately prior to the Transaction.
- *Restricted stock units* - Outstanding RSUs held at the time of the Transaction were converted into RSUs of the participants employer following the separation. The number of underlying shares was adjusted to preserve the overall intrinsic value of the awards immediately prior to the Transaction.
- *Performance share units* - Active and outstanding PSU awards held at the time of the Transaction were converted into active and outstanding PSUs of the Company. Post-transaction, the Company's employees will continue to participate in the plan at target levels with payout based on actual performance at the end of the respective three-year performance period for each award. Post-transaction, Ingersoll Rand Industrial employees will continue to participate in the plan with the target number of PSUs prorated based on the portion of the performance cycle completed as of the transaction date with payout based on actual performance at the end of the respective three year performance period for each award. The number of underlying shares was adjusted to preserve the overall intrinsic value of the awards immediately prior to the Transaction.

Per ASC 718, an adjustment to the terms of a stock-based compensation award to preserve its value after an equity restructuring may result in significant incremental compensation cost if there was no requirement to make such an adjustment based on the awards existing terms. The Company reviewed the provisions of its existing share-based compensation plans and determined the Transaction required modification to the terms of outstanding awards. As a result, the Company incurred less than $0.1 million of incremental compensation costs at the date of the Transaction.

Compensation Expense

Share-based compensation expense related to continuing operations is included in *Distribution costs and administrative expenses*. The following table summarises the expenses recognized:

	2020	2019
	$m	$m
Stock options	17.9	20.2
RSUs	23.3	26.5
PSUs	26.7	17.9
Deferred compensation	3.9	3.1
Other	3.3	3.5
Pre-tax expense	75.1	71.2
Tax benefit	(18.2)	(17.3)
After-tax expense	56.9	53.9
Amounts recorded in continuing operations	55.2	46.5
Amounts recorded in discontinued operations	1.7	7.4
Total	56.9	53.9

Grants issued during the year ended 31 December were as follows:

	2020		2019	
	Number Granted	Weighted-average fair value per award	Number Granted	Weighted-average fair value per award
Stock options	1,021,628	$ 16.75	1,286,857	$ 17.17
RSUs	213,142	$ 104.76	268,465	$ 102.98
Performance shares (1)	278,468	$ 140.72	312,362	$ 111.12

(1) The number of performance shares represents the maximum award level.

Stock Options / RSUs

Eligible participants may receive (i) stock options, (ii) RSUs or (iii) a combination of both stock options and RSUs. The fair value of each of the Company's stock option and RSU awards is expensed on a straight-line basis over the required service period, which is generally the 3-year vesting period. However, for stock options and RSUs granted to retirement eligible employees, the Company recognizes expense for the fair value at the grant date.

The average fair value of the stock options granted is determined using the Black Scholes option pricing model. The following assumptions were used during the year ended 31 December:

	2020	2019
Dividend yield	2.01 %	2.06 %
Volatility	24.33 %	21.46 %
Risk-free rate of return	0.56 %	2.46 %
Expected life in years	4.8	4.8

A description of the significant assumptions used to estimate the fair value of the stock option awards is as follows:

- *Volatility* - The expected volatility is based on a weighted average of the Company's implied volatility and the most recent historical volatility of the Company's stock commensurate with the expected life.
- *Risk-free rate of return* -The Company applies a yield curve of continuous risk-free rates based upon the published US Treasury spot rates on the grant date.
- *Expected life* - The expected life of the Company's stock option awards represents the weighted-average of the actual period since the grant date for all exercised or canceled options and an expected period for all outstanding options.
- *Dividend yield* - The Company determines the dividend yield based upon the expected quarterly dividend payments as of the grant date and the current fair market value of the Company's stock.
- *Forfeiture Rate* - The Company analyzes historical data of forfeited options to develop a reasonable expectation of the number of options to forfeit prior to vesting per year. This expected forfeiture rate is applied to the Company's ongoing compensation expense; however, all expense is adjusted to reflect actual vestings and forfeitures.

Changes in options outstanding under the plans for the years 2020 and 2019 are as follows:

	Shares subject to option	Weighted-average exercise price	Aggregate intrinsic value (millions)	Weighted-average remaining life
31 December 2018	6,285,351	$ 66.95		
Granted	1,286,857	101.42		
Exercised	(2,076,338)	56.17		
Cancelled	(76,624)	92.38		
31 December 2019	5,419,246	78.91		
Granted	1,021,628	105.29		
Exercised	(1,767,782)	58.27		
Cancelled	(49,539)	88.12		
Adjustment due to the Transaction	1,095,805	n/a		
Outstanding 31 December 2020	5,719,358	$ 70.53	$ 426.9	6.2
Exercisable 31 December 2020	3,352,349	$ 58.77	$ 289.6	5.0

The following table summarises information concerning currently outstanding and exercisable options:

Range of exercise price	Options outstanding: Number outstanding at 31 December 2020	Weighted-average remaining life (years)	Weighted-average exercise price	Options exercisable: Number outstanding at 31 December 2020	Weighted-average remaining life	Weighted-average exercise price
$ 15.01 — $ 30.00	91,434	0.9	$ 26.16	91,434	0.9	$ 26.16
$ 30.01 — $ 40.00	682,984	4.0	$ 37.95	682,984	4.0	$ 37.95
$ 40.01 — $ 50.00	232,405	3.0	$ 46.56	232,405	3.0	$ 46.56
$ 50.01 — $ 60.00	328,001	3.7	$ 52.28	328,001	3.7	$ 52.28
$ 60.01 — $ 70.00	939,243	5.6	$ 63.19	776,864	5.2	$ 62.66
$ 70.01 — $ 80.00	2,430,895	6.8	$ 74.53	1,207,923	6.4	$ 73.38
$ 80.01 — $ 90.00	1,667	8.3	$ 86.31	555	8.3	$ 86.31
$ 90.01 — $ 100.00	19,921	8.6	$ 94.50	1,369	8.7	$ 92.92
$ 100.01 — $ 110.00	991,715	8.9	$ 105.25	30,814	3.5	$ 105.28
$ 110.01 — $ 145.00	1,093	9.9	$ 144.34	—	0.0	$ —
$ 18.90 — $ 144.34	5,719,358	6.2	$ 70.53	3,352,349	5.0	$ 58.77

At 31 December 2020, there was $8.3 million of total unrecognized compensation cost from stock option arrangements granted under the plan, which is primarily related to unvested shares of non-retirement eligible employees. The aggregate intrinsic value of options exercised during the year ended 31 December 2020 and 2019 was $120.5 million and $124.5 million, respectively. Generally, stock options expire ten years from their date of grant.

The following table summarises RSU activity for the years 2020 and 2019:

	RSUs	Weighted-average grant date fair value
Outstanding and unvested at 31 December 2018	721,639	$ 78.40
Granted	268,465	$ 102.98
Vested	(364,817)	$ 70.26
Cancelled	(20,947)	$ 89.64
Outstanding and unvested at 31 December 2019	604,340	$ 93.56
Granted	213,142	$ 104.76
Vested	(338,952)	$ 86.62
Cancelled	(11,356)	$ 84.38
Adjustment due to the Transaction	22,348	n/a
Outstanding and unvested at 31 December 2020	489,522	$ 87.75

At 31 December 2020 there was $11.5 million (2019: $16.3 million) of total unrecognized compensation cost from RSU arrangements granted under the plan, which is related to unvested shares of non-retirement eligible employees.

Performance Shares

The Company has a Performance Share Program (PSP) for key employees. The program provides awards in the form of PSUs based on performance against pre-established objectives. The annual target award level is expressed as a number of the Company's ordinary shares based on the fair market value of the Company's stock on the date of grant. All PSUs are settled in the form of ordinary shares.

Beginning with the 2018 grant year, PSU awards are earned based 50% upon a performance condition, measured by relative Cash Flow Return on Invested Capital (CROIC) to the industrial group of companies in the S&P 500 Index over a 3-year performance period, and 50% upon a market condition, measured by the Company's relative total shareholder return (TSR) as compared to the TSR of the industrial group of companies in the S&P 500 Index over a 3-year performance period. The fair value of the market condition is estimated using a Monte Carlo Simulation approach in a risk-neutral framework based upon historical volatility, risk-free rates and correlation matrix. Awards granted prior to 2018 were earned based 50% upon a performance condition, measured by relative earnings-per-share (EPS) growth to the industrial group of companies in the S&P 500 Index over a 3-year performance period, and 50% upon a market condition measured by the Company's relative TSR as compared to the TSR of the industrial group of companies in the S&P Index over a 3-year performance period.

The following table summarizes PSU activity for the maximum number of shares that may be issued for the years 2020 and 2019:

	PSUs	Weighted-average grant date fair value
Outstanding and unvested at 31 December 2018	1,246,164	$ 79.83
Granted	312,362	$ 111.12
Vested	(539,402)	$ 53.76
Forfeited	(34,194)	$ 106.14
Outstanding and unvested at 31 December 2019	984,930	$ 103.12
Granted	278,468	$ 140.72
Vested	(340,400)	$ 93.63
Forfeited	(56,430)	$ 89.94
Adjustment due to the Transaction	151,904	n/a
Outstanding and unvested at 31 December 2020	1,018,472	$ 99.53

At 31 December 2020 there was $18.0 million (2019: $17.6 million) of total unrecognized compensation cost from the PSU arrangements based on current performance, which is related to unvested shares. This compensation will be recognized over the required service period, which is generally the three-year vesting period.

Deferred Compensation

The Company allows key employees to defer a portion of their eligible compensation into a number of investment choices, including its ordinary share equivalents. Any amounts invested in ordinary share equivalents will be settled in ordinary shares of the Company at the time of distribution.

33. SHARE CAPITAL

Authorised share capital	Number in millions	$m
1,175,000,000 ordinary shares of $1 par value	1,175.0	1,175.0
10,000,000 preference shares of $0.001 par value	10.0	—
40,000 ordinary shares of €1.00 Euro par value	—	—
At 31 December 2020 and 31 December 2019	1,185.0	1,175.0

Allotted and fully paid - presented as equity

Ordinary shares of $1.00 each	Number	$m
At 1 January 2019	266,405,347	266.4
Issued during the financial year	2,800,973	2.8
Repurchase of ordinary shares	(6,401,381)	(6.4)
At 31 December 2019	262,804,939	262.8
Issued during the financial year	2,258,368	2.3
Repurchase of ordinary shares	(1,754,057)	(1.8)
At 31 December 2020	263,309,250	263.3

During 2020, a total of 2,258,368 (2019: 2,800,973) ordinary shares, each with a nominal value of $1.00, were issued for a consideration of $247.3 million (2019: $286.3 million) under the Company's share-based payment plans.

The holders of ordinary shares are entitled to such dividends that may be declared from time to time on such shares and are entitled to attend, speak and vote at the Annual General Meeting of the Company. On return of capital on a winding up, the holder of ordinary shares is entitled to participate in a distribution of surplus assets of the Company.

There were no Euro denominated ordinary shares or US dollar preference shares outstanding at 31 December 2020 or 2019.

Share repurchase program

Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, the the Company's Board of Directors authorized the repurchase of up to $1.5 billion of its ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. No material amounts were repurchased under this program in 2018. During the year ended 31 December 2019, the Company repurchased and canceled approximately $750 million of its ordinary shares. During the year ended 31 December 2020, the Company repurchased and canceled approximately $250 million of its ordinary shares leaving approximately $500 million remaining under the 2018 Authorization. Additionally, through February 9, 2021, the Company repurchased approximately $100 million of our ordinary shares under the 2018 Authorization. Additionally, through February 9, 2021, we repurchased approximately $100 million of our ordinary shares under the 2018 Authorization leaving approximately $400 million remaining under the 2018 Authorization. In February 2021, our Board of Directors authorized the repurchase of up to $2.0 billion of the Company's ordinary shares under a new share repurchase program (2021 Authorization) upon completion of the 2018 Authorization.

Shares repurchased and cancelled

During the year ended 31 December 2020, the Company repurchased 1,754,057 ordinary shares (2019: 6,401,381), or 0.66% of the ordinary shares in issue (2019: 2.43%) at an average price of $142.55 per share. These shares with a nominal value of $1.8 million were cancelled, giving rise to a capital redemption reserve of an equivalent amount as required by Section 106 (4) (a) of the Companies Act 2014. The aggregate consideration paid was $250 million (2019: $750.1 million) which is reflected as a reduction in the profit and loss account within Total equity.

Treasury shares held by the Company

At 31 December 2020, the total number of treasury shares held directly by the Company was 24,495,509 (2019: 24,495,509); the nominal value of these shares was $24,495,509 (2019: $24,495,509). During the year ended 31 December 2020 the Company did not acquire any treasury shares under the repurchase program. The total accumulated treasury shares acquired represent 9.3% (2019: 9.3%) of the ordinary shares in issue at 31 December 2020.

Own shares held by a subsidiary

At 31 December 2020, a subsidiary of the Company held 5,353 (2019: 4,388) ordinary shares of $1.00 each with an aggregate nominal value of $5,353 (2019: $4,388) in trust for a deferred compensation plan.

The following table summarises the movement in treasury shares held and own shares reserve:

	Number and aggregate nominal value of shares held			Cost of shares held		
	Treasury	Trust	Total	Treasury $m	Trust $m	Total $m
At 1 January 2019	24,495,509	4,545	24,500,054	1,719.1	0.3	1,719.4
Purchase of shares held in treasury	—	—	—	—	—	—
Purchase of shares held by employee trust	—	83	83	—	—	—
Exercise of share awards	—	(240)	(240)	—	—	—
At 31 December 2019	24,495,509	4,388	24,499,897	1,719.1	0.3	1,719.4
Purchase of shares held in treasury	—	—	—	—	—	—
Purchase of shares held by employee trust	—	1,215	1,215	—	—	—
Exercise of share awards	—	(250)	(250)	—	—	—
At 31 December 2020	24,495,509	5,353	24,500,862	1,719.1	0.3	1,719.4

34. PROFIT ATTRIBUTABLE TO TRANE TECHNOLOGIES PLC

In accordance with section 304 of the Companies Act 2014 and Section 348 of the Companies Act 2014, the Company is availing of the exemption from presenting its individual profit and loss account to the Annual General Meeting and from filing it with the Registrar of Companies. The Company's profit for the financial year determined in accordance with Irish GAAP is $2,794.8 million (2019: $9.0 million).

35. OTHER RESERVES

	Derivative Instruments	Pension and OPEB items	Currency translation reserve	Share based payment reserve	Other reserves	Total
	$m	$m	$m	$m	$m	$m
At 1 January 2019	6.7	(454.0)	(519.9)	370.9	(2.0)	(598.3)
Currency translation and other	—	(1.4)	(37.1)	—	—	(38.5)
Unrealized net gains (losses) arising during period	(2.7)	—	—	—	—	(2.7)
Net gains (losses) reclassified into earnings	0.7	—	—	—	—	0.7
Tax (expense) benefit	0.9	(4.7)	—	—	—	(3.8)
Prior service costs for the period	—	(5.7)	—	—	—	(5.7)
Net actuarial gains (losses) for the period	—	(41.9)	—	—	—	(41.9)
Amortization reclassified into earnings	—	48.1	—	—	—	48.1
Settlements/curtailments reclassified to earnings	—	2.2	—	—	—	2.2
Shares issued under incentive stock plans	—	—	—	(213.8)	—	(213.8)
Share-based compensation	—	—	—	66.4	—	66.4
Other	—	—	—	0.1	(0.9)	(0.8)
Balance at 31 December 2019	5.6	(457.4)	(557.0)	223.6	(2.9)	(788.1)
Currency translation and other	—	(10.4)	258.8	—	—	248.4
Unrealized net gains (losses) arising during period	3.3	—	—	—	—	3.3
Net gains (losses) reclassified into earnings	1.9	—	—	—	—	1.9
Tax (expense) benefit	—	(0.7)	—	—	—	(0.7)
Prior service costs for the period	—	(1.9)	—	—	—	(1.9)
Net actuarial gains (losses) for the period	—	(52.5)	—	—	—	(52.5)
Amortization reclassified into earnings	—	43.4	—	—	—	43.4
Settlements/curtailments reclassified to earnings	—	(1.8)	—	—	—	(1.8)
Shares issued under incentive stock plans	—	—	—	(182.8)	—	(182.8)
Share-based compensation	—	—	—	69.5	—	69.5
Separation of Ingersoll Rand Industrial	—	64.8	70.2	—	—	135.0
Other	—	—	—	—	—	—
Balance at 31 December 2020	10.8	(416.5)	(228.0)	110.3	(2.9)	(526.3)

A description of each reserve within equity is outlined below:

Share premium account

Share premium represents the excess of proceeds received over the nominal value of new shares issued.

Capital redemption reserve

The capital redemption reserve arose from the purchase and cancellation of own share capital, and represents the nominal amount of the share capital cancelled.

Share-based payment reserve

The share-based payment reserve represents the cumulative charge of share options granted which are not yet exercised and issued as shares.

Profit and loss account

The profit and loss account represents accumulated comprehensive income for the financial year and prior financial years plus the Irish High Court approved creation of distributable reserves through the reduction of the share premium account, plus the transfers from the revaluation reserve realised on the Security Spin-off, less share repurchases and acquisition of treasury shares less dividends paid in cash and in-kind.

The Company's share premium, capital redemption reserve, revaluation reserve and share-based payment reserves are undistributable reserves. Under Irish law, dividends and distributions cannot be made from undistributable reserves.

Dividends paid to shareholders

	2020 $m	2019 $m
First interim - paid $0.53c per Ordinary Share (2019: $0.53c)	126.8	127.7
Second interim - paid $0.53c per Ordinary Share (2019: $0.53c)	126.8	127.9
Third interim - paid $0.53c per Ordinary Share (2019: $0.53c)	127.1	127.4
Fourth interim - paid $0.53c per Ordinary Share (2019: $0.53c)	127.0	126.5
Total	507.7	509.5

Future dividends

Future dividends on our ordinary shares, if any, will be at the discretion of our Board of Directors and will depend on, among other considerations, our results of operations, cash requirements and surplus, financial condition, contractual restrictions and other factors that the Board of Directors may deem relevant, as well as our ability to pay dividends in compliance with the Irish Companies Act 2014. Under the Irish Companies Act 2014, dividends and distributions may only be made from distributable reserves.

Distributable reserves, broadly, means the accumulated realized profits (so far as not previously distributed or capitalized) less its accumulated, realized losses (so far as not previously written off in a reduction or reorganization of its share capital) of Trane Technologies plc. In addition, no distribution or dividend may be made unless the net assets of Trane Technologies plc are equal to, or in excess of, the aggregate of Trane Technologies plc’s called up share capital plus undistributable reserves and the distribution does not reduce Trane Technologies plc's net assets below such aggregate.

36. NON-CONTROLLING INTERESTS

	2020 $m	2019 $m
At 1 January	44.8	42.1
Share of profit for the financial year	15.1	17.6
Dividends to non-controlling interests	(18.3)	(15.8)
Investment by joint venture partner	3.1	—
Separation of Ingersoll Rand Industrial	(28.0)	—
Other	2.7	0.9
At 31 December	19.4	44.8

37. LOANS TO DIRECTORS

Section 307 of the Companies Act 2014 prohibits the Company from making a loan or quasi-loan to a director of the Company. The directors confirm that they are in compliance with the legislation.

38. CAPITAL EXPENDITURE COMMITMENTS

	2020 $m	2019 $m
Capital expenditure that has been authorised by the Directors but not yet been contracted	235.9	173.9

39. RELATED PARTY DISCLOSURES

The principal related party relationships requiring disclosure in the consolidated financial statements pertain to the existence of subsidiaries and associates and transactions with these entities entered into by the Group and the identification of key management personnel as addressed in greater detail below.

Subsidiaries, Joint Ventures and Associates

The consolidated financial statements include the results of operations, financial positions and cash flows of the company and its subsidiaries, joint ventures and associates over which the company has control or otherwise qualify for consolidation or equity accounting. A listing of the principal subsidiaries and associates is provided in Note 40. Associates not consolidated or equity accounted are included in Note 19 to the Consolidated Financial Statements.

Trading Transactions

There were no transactions requiring disclosure under Section 67 (1) of the Irish Companies Act 2014.

Compensation of Key Management Personnel of the Group

Key management personnel are the Company's executive and non-executive directors and the following is the aggregate compensation of these directors.

	2020 $m	2019 $m
Emoluments	5.1	4.8
Gains by the directors on the exercise of share options	19.1	48.2
Benefits under long-term incentive schemes	2.4	2.8
Contributions to defined benefit retirement schemes	0.3	0.3
	26.9	56.1

40. PRINCIPAL SUBSIDIARIES, JOINT VENTURES AND ASSOCIATES

The principal subsidiaries, joint ventures and associate undertakings at 31 December 2020, all of which are included in the consolidated financial statements, are listed below:

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
200 Park, Inc.	Operating	c/o Corporation Service Company, 508 Meeting Street, West Columbia, SC 29169	100%
Airco Limited	Manufacturing & Distribution	30th-31st Floor Vanit Building II, 1126/2 New Petchburi Road, Makkasan, Rachthevee, Bangkok 10400 Thailand.	48%
Aldrich Pump LLC	Holding Company	c/o Corporation Service Company, 2626 Glenwood Avenue, Suite 550, Raleigh, NC 27608	100%
Alliance Compressors LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	25%
Amair Limited	Manufacturing & Distribution	999/1 Mu9, Bangna-Trad KM. 19 Road, Bangchalong, Bangplee, Samutprakran	97%
Arctic Cool Chillers Limited	Operating	199 Bay Street, Commerce Court West, Suite 5300, Toronto, Ontario M5L 1B9	100%
Aro De Venezuela, C.A.	Manufacturing & Distribution	Edificio Aldemo, 6 Piso, Avenida Venezuela, El Rosal, Caracas, Venezuela	100%
Best Matic International AB	Non-Operating	Flygfältsgatan, 8 SE-128 30 Skarpnäck, Sweden	100%
Best Matic International Limited	Non-Operating	Sefton House, Northgate Close, Middlebrook Business Park, Bolton, BL6 6PQ, England	100%
Best Matic Vermogensverwaltungs Gmbh	Non-Operating	Max-Planck-Ring 27, 46049 Oberhausen, Germany	100%
Calmac Corp.	Trading Company	c/o Corporation Service Company, 80 State Street, Albany, NY 12207-2543	100%
Climate ETC Technology Services Private Limited	Operating	8th & 9th Floor, Tower C & D, IBC Knowledge Park, No. 4/1, Bannerghatta Main Road, Bangalore 560029 India	100%
ClimateLabs LLC	Operating	c/o Corporation Service Company, 2626 Glenwood Avenue, Suite 550, Raleigh, NC 27608	100%
Compagnie Trane Technologies SAS	Trading Company	1 rues des Amériques, Golbey, 88190, France	100%
Cool Energy Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Dallah Trane For Manufacturing Air-Conditioners	Trading Company	PO Box 19902, Rabigh 21445, Saudi Arabia	49%
Diasorin International B.V.	Non-Operating	Produktieweg 10, Zoeterwoude, 2382PB, Netherlands,	100%
Dradnats Inc.	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
EBB Holdings Limited	Holding Company	David King & Company, Suite 101, Lauriston Building, Collymore Rock, St. Michael Barbados	100%
Filairco Inc.	Manufacturing & Distribution	JJM Bldg. No. 5, NAIA Road, Brgy. San Dionisio, Paranaque City, 1704 Philippines	100%
Filairco Technical Services Co., Inc.	Trading Company	JJM Bldg. No. 5, NAIA Road, Brgy. San Dionisio, Paranaque City, 1704 Philippines	25%
Flowcool Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
Frigoblock Gmbh	Trading Company	Weidkamp 274, Essen, 45356, Germany	100%
Frigoblock UK Limited	Non-Operating	Chandos House, School Lane, Buckingham, Buckinghamshire, MK18 1HD, England	100%
Hermann Trane Harrisburg Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
ICS Cool Energy (SAS)	Trading Company	Rue Des Chataignier, 77590, Chartrettes, Melun, France	100%
ICS Cool Energy AG	Trading Company	Wiesenstrasse 1a, 8865 Bilten, Switzerland	100%
ICS Cool Energy B.V.	Trading Company	Rotschotseweg 2, 5271 WX Sint-Michielsgestel, Netherlands	100%
ICS Cool Energy Gmbh	Trading Company	Steinerne Furt 76 86167 Augsburg, Germany	100%
ICS Cool Energy Investments Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
ICS Cool Energy Limited	Trading Company	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
ICS Group Holdings Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
ICS Heat Pumps Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
ICS Renewable Energy Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
ICS Servicing Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
Industrial Chill Servicing Private Ltd.	Holding Company	c/o SGG Corporate Services (Mauritius) Ltd, 33, Edith Cavell Street, Port Louis, 11324, Mauritius	100%
Ingersoll-Rand Zimbabwe (Private) Limited	Non-Operating	Central Africa House-8th Fl., Abercorn Street, Bulawayo	100%
Mitsubishi Electric Trane HVAC US LLC	Operating	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, DE 19801	50%
Murray Boiler Holdings LLC	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Murray Boiler LLC	Holding Company	c/o Corporation Service Company, 2626 Glenwood Avenue, Suite 550, Raleigh, NC 27608	100%
Nexia Intelligence LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Perfect Pitch, L.P.	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	68%
Pt Trane Indonesia	Trading Company	EightyEight@Kasablanka, 11th Floor, Unit A & H Jl. Casablanca Kav. 88, Jakarta Selatan 12870	100%
R&O Immobilien Gmbh	Holding Company	Max-Planck-Ring 27, 46049 Oberhausen, Germany	100%
Reftrans, S.A.	Manufacturing & Distribution	Calle San Jose 140-142, Apartado de Correos 97, Poligono Industrial El Pla, Sant Feliu de Llobregat, 08980 Barcelona, Spain	85%
Societe Trane SAS	Manufacturing & Distribution	1 rues des Amériques, Golbey, 88190, France	100%
Spanashview Unlimited Company	Non-Operating	Monivea Road, Mervue, Galway, Ireland	100%
Standard Centennial Property, LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Standard Compressors Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Standard Industrial Mineral Products Corp.	Non-Operating	Purok 2, Calaboso Road, Sto. Tomas, Binan, Laguna, Philippines	40%
Standard Resources and Development Corporation	Non-Operating	Unit 304, 3rd Floor, Jovan Condominium, Shaw Boulevard, Mandaluyong City, Metro Manila, Philippines	40%
Standard Trane Insurance Company	Non-Operating	c/o Corporation Service Company, 2626 Glenwood Avenue, Suite 550, Raleigh, NC 27608	100%
Standard Trane Insurance Ireland Designated Activity Company	Non-Operating	c/o Aon Risk Solutions Global Risk Consulting, 3rd Floor The Metropolitan Building, James Joyce Street, Dublin 1, Ireland	100%
Standard Trane Warranty Company	Non-Operating	c/o Corporation Service Company, 508 Meeting Street, West Columbia, SC 29169	100%
T.I. Solutions (Israel) Ltd.	Trading Company	26 Harokmim st., Azrieli center, building B, 5th floor, Holon, 5811702, Israel	100%
Tast Limited	Holding Company	942/142-3 Charn Issara Tower, Rama IV Road, Suriyawong, Bangrak, Bangkok 10500, Thailand.	48%
The Imteaz Alroaa Company for General Trade and Maintenance of Industrial Equipment Limited Liability	Non-Operating	16 - building 91, 2nd floor ALMAGHRED STREET– Dist., 306 Alley BAGHDAD Iraq	100%
Thermo King (Hong Kong) Company Limited	Operating	Suite 3001, 148 Electric Road, Tin Hau, Hong Kong	100%
Thermo King (Shanghai) Co., Ltd	Operating	10 Floor NO.99, Xianxia Road ChangNing District Shanghai China	100%
Thermo King Container Temperature Control (Suzhou) Corporation Ltd.	Manufacturing & Distribution	No. 2333, west side of Pang Jin Road, Wu Jiang Economic Development Zone, Jiang Su Province, China	82%
Thermo King Container-Denmark A/S	Trading Company	Arne Jacobsens Allé 7, 2300 København S, Denmark	100%
Thermo King Corporation	Manufacturing & Distribution	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Thermo King de Puerto Rico, Inc.	Manufacturing & Distribution	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Thermo King European Manufacturing Limited	Non-Operating	170/175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Thermo King India Private Limited	Trading Company	8th Floor, Tower D, IBC Knowledge Park, No. 4/1, Bannerghatta Main Road, Bangalore – 560029	100%
Thermo King Ireland Limited	Non-Operating	Monivea Road, Mervue, Galway, Ireland	100%
Thermo King Japan Limited	Trading Company	Honda Denki Building 5F, 5-37, Kami-Osaki 4-chome, Shinagawa-ku, Tokyo	100%
Thermo King Manufacturing S.R.O	Trading Company	č.p. 292, 280 02 Ovčáry, Czech Republic	100%
Thermo King Puerto Rico Manufactura, Inc.	Manufacturing & Distribution	The Prentice-Hall Corporation System Of Puerto Rico, Inc. C/O Fast Solutions LLC, Citi Tower 252, Ponce de Leon Avenue, Floor 20, San Juan, 00918, Puerto Rico	100%
Thermo King Rodamientos, S.L	Holding Company	C/ Casas de Miravete Nº 22B, Edificio 1B - 3ª planta, Madrid, 28031, Spain	100%
Thermo King Services Limited	Non-Operating	Monivea Road, Mervue, Galway, Ireland	100%
Thermo King South Africa (Pty) Ltd	Manufacturing & Distribution	Michele Ferrero Business Park, 21 Innes Road, Jet Park, 1459, Witfield South Africa	100%
Thermo King SVC, Inc.	Trading Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Thermo King Sverige AB	Trading Company	Box 145, V Gotalands Lan, Goteborg kommun, Hisings, Karra, 42502, Sweden	100%
Thermo King Trading Company	Trading Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Thermo King Transportkoeling B.V.	Trading Company	Driemanssteeweg 60, Rotterdam, 3084CB, Netherlands	100%
TK Puerto Rico Aire, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Comercial, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Ensamblaje, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Fabricacion, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Logistica, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Operaciones Industriales, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Produccion, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Soluciones Climaticas, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TK Puerto Rico Tecnologias, Inc.	Trading Company	517 Zona Industrial Zeno Gandia, Calle B, Areibo, 00901, Puerto Rico	100%
TM Air Conditioning Sdn. Bhd.	Trading Company	Unit 30-01, Level 30, Tower A, Vertical Business Suite, Avenue 3, Bangsar South, No.8, Jalan Kerinchi	100%
Trane (Europe) Limited	Non-Operating	Sefton House, Northgate Close, Middlebrook Business Park, Bolton, BL6 6PQ, England	100%
Trane (Ireland) Limited	Trading Company	F7 Centrepoint Business Park, Oak Road, Dublin, 12, Ireland	100%
Trane (Schweiz) Gmbh / Trane (Suisse) S.A.R.L.	Trading Company	Industriestrasse 28, Dietikon, CH-8108, Switzerland	100%
Trane (Thailand) Limited	Manufacturing & Distribution	30th - 31 st Floor, Vanit Building II, 1126/2 New Petchburi Road, Makkasan, Rachthevee, Bangkok 10400 Thailand	100%
Trane Air Conditioning Products Limited	Non-Operating	c/o Maples and Calder, PO Box 309, Ugland House, South Church Street, George Town, Grand Cayman, KY1-1104, Cayman Islands	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Trane Air Conditioning Systems (China) Co. Ltd.	Manufacturing & Distribution	No.88 Suzhou Road East, Taicang, Jiangsu Province, China	100%
Trane Air Conditioning Systems And Service Co., Limited	Trading Company	Suite 3001, 148 Electric Road, Tin Hau, Hong Kong	100%
Trane Air Conditioning Technologies (Shanghai) Co., Ltd.	Operating	Unit 1003, 99 Xianjia Road, Changning District, Shanghai	100%
Trane Airconditioning Pte. Ltd.	Holding Company	30 Boon Lay Way, #04-01, Singapore 609957, Singapore	100%
Trane Aire Acondicionado S.L.	Trading Company	calle Casas de Miravete, número 22 B, Edificio 1B-2a planta, Madrid, Spain	100%
Trane Bermuda Ltd.	Non-Operating	c/o Ocorian Services (Bermuda) Limited, Canon's Court, 22 Victoria Street, Hamilton, HM 12, Bermuda	100%
Trane Brands, Inc.	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Buford LLC	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane BV	Trading Company	Lenneke Marelaan 6, 1932 St-Stevens-Woluwe, ON: 0477.659.177 - RPR, Bruxelles/Brussel, Belgium	100%
Trane Canada ULC	Trading Company	Fasken Martineau DuMoulin LLP 2900 - 550 Burrard Street, Vancouver, British Columbia V6C 0A3	100%
Trane Central America, Inc.	Trading Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane China Holdings Limited	Holding Company	c/o Maples and Calder, P.O. Box 309, Ugland House, South Church Street, George Town, Grand Cayman, KY1-1104, Cayman Islands	100%
Trane Climate Manufacturing S.R.L.	Manufacturing & Distribution	Via Dei Ciclamini 25, Modugno, Bari, Italy	100%
Trane CR Spol SRO.	Trading Company	Thamova 183/11, 18600 Praha 8, Karlin, Czech Republic	100%
Trane Croatia D.O.O Za Trgovinu	Trading Company	Zagreb, Ulica grada Vukovara 284, Croatia	100%
Trane de Argentina S.A.	Trading Company	c/o Brons & Salas Abogados, Maipú 1210, 5to Piso, Buenos Aires, C1006ACT, Argentina	100%
Trane de Chile S.A.	Manufacturing & Distribution	Calle Nueva 1820, Huechuraba, Santiago, Chile	100%
Trane de Colombia S.A.	Trading Company	Av. KR 45 #108-27, Piso 18, Bogotá, Colombia	100%
Trane Deutschland Gmbh	Trading Company	Max-Planck-Ring 27, 46049 Oberhausen, Germany	100%
Trane Distribution Pte Ltd	Manufacturing & Distribution	30 Boon Lay Way, #04-01, Singapore 609957, Singapore	100%
Trane do Brasil Indústria e Comércio de Productos para Condicionamento de Ar Ltda.	Trading Company	Rua Pinheirinho, 144, térreo, sala 01, Jabaquara, State of São Paulo, City of São Paulo, CEP 04.321, Brazil	100%
Trane Dominicana, S.R.L.	Trading Company	c/o Jorge Mera & Villegas, Calle Pablo Casals #12, Piantini, Santo Domingo, Dominican Republic	100%
Trane Egypt LLC	Trading Company	45 Abdel Hamid Badawi Street, Heliopolis, Cairo, Egypt	99%
Trane Energy Choice, LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Energy Services LLC	Operating	c/o Corporation Service Company, 421 West Main Street, Frankfort, KY 40601	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Trane Europe Holdings B.V.	Holding Company	Nieuwegracht 22, 3763 LB, Soest, Netherlands	100%
Trane Export LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Finance Sprl	Non-Operating	Lenneke Marelaan 6, 1932 St-Stevens-Woluwe, ON: 0477.659.177 - RPR, Bruxelles/Brussel, Belgium	100%
Trane Foundation of New York	Non-Operating	c/o Corporation Service Company, 80 State Street, Albany, NY 12207-2543	100%
Trane France SAS	Trading Company	1 rues des Amériques, Golbey, 88190, France	100%
Trane Gmbh	Trading Company	Campus 21, Liebermannstraße F03 201, 2345 Brunn am Gebirge, Austria	100%
Trane GP Inc.	Holding Company	Fasken Martineau DuMoulin LLP 2900 - 550 Burrard Street, Vancouver, British Columbia V6C0A3	100%
Trane Grid Services LLC	Operating	c/o Corporation Service Company, 421 West Main Street, Frankfort, KY 40601	100%
Trane Hellas S.A.	Trading Company	18, Erifilis str, Halandri, Athens, 15232, Greece	100%
Trane Holding Limited	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Holdings Company Yk	Holding Company	Honda Denki Building 5F, 5-37, Kami-Osaki 4-chome, Shinagawa-ku, Tokyo, 141-0021 Japan	100%
Trane Hungary Kft	Trading Company	H-2040 Budaörs, Baross utca, 165 Budapest, Hungary	100%
Trane Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Inc. Of Delaware	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane India Ltd.	Trading Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane International Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Investments Canada Inc.	Holding Company	Fasken Martineau DuMoulin LLP 2900 - 550 Burrard Street, Vancouver, British Columbia V6C 0A3	100%
Trane IP Inc.	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Italia S.R.L	Trading Company	Viele Europa, 30/C/2, 20090 Cusago, Milano, Italy	100%
Trane Japan, Ltd.	Trading Company	Honda Denki Building 5F, 5-37, Kami-Osaki 4-chome, Shinagawa-ku, Tokyo,	100%
Trane Klima Ticaret AS	Trading Company	Aytar Cad Metro IS Hani 10 Kat 3, F. Levent 80600, Istanbul, 80600, Turkey	100%
Trane Korea, Inc.	Trading Company	8FL Trutec Building, 12, Worldcupbuk-ro 56-gil Sangam-dong 1598, Mapo-gu, Seoul, 121-835, Korea	100%
Trane Kuwait Airconditioning Co WLL	Trading Company	P.O. Box 42039, Shuwaikh Ind. Area, 70651, Kuwait	49%
Trane Malaysia Sales & Services Sdn. Bhd.	Trading Company	Registered Office - Unit 30-01, Level 30, Tower A Vertical Business Suite, Avenue 3 Bangsar South, No. 8, Jalan Kerinchi, Primary - Lot 4881, Jalan SS 13/2, 47500 Subang Jaya, Selangor Darul Ehsan, 47500 Malaysia	100%
Trane Maroc S.A.R.L.AU	Trading Company	219 Boulevard Zerktouni, Résidence El Berdai, CASABLANCA, 20100, Morocco	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Trane Netherlands B.V.	Trading Company	Nieuwegracht 22, 3763 LB, Soest, Netherlands	100%
Trane Poland SP. Z.O.O	Trading Company	al. Jerozolimskie 195b, 02-222 Warszawa, Poland	100%
Trane Portugal	Trading Company	Alameda António Sérgio, 7 - Sala L, Distrito: Lisboa Concelho: Oeiras Freguesia: Algés, Linda-a-Velha e Cruz Quebrada-Dafundo 2795 023 Linda-a-Velha, Lisbon, Portugal	100%
Trane Puerto Rico LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Qatar LLC	Trading Company	Building no. (1), (Financial Square Building) in C ring road, Al Muntazah Signal, Doha, Qatar	49%
Trane Romania S.R.L.	Trading Company	Starda Cauzasi Nr. 22B, Bloc CORP A, Sector 3, Bucuresti, Cod 030802, Romania	100%
Trane S.A.	Holding Company	c/o PHH Consulting, HEYER Route de la Belle-Croix 4, 1680 Romont FR, Switzerland	100%
Trane S.A.E.	Manufacturing & Distribution	45, Abdel Hamid, Badawi St., Heliopolis, Cairo, Egypt	100%
Trane Servicefirst, C.A.	Trading Company	Apartado Postal 62015, Caracas 1060A, Venezuela, Caracas, Venezuela	100%
Trane Services Limited	Non-Operating	Harrow House, Bessemer Road, BASINGSTOKE Hampshire, RG21 3NB, England	100%
Trane Singapore Enterprises Pte. Ltd	Operating	31 Boon Lay Way, #04-01, Singapore 609957, Singapore	100%
Trane Sistemas Integrales, S. De R.L. De C.V.	Trading Company	Félix Guzmán 21, El Parque de los Remedios y Joselillo, Naucalpan, Mexico, CP, 53398, Mexico	100%
Trane Support SAS	Non-Operating	1 rues des Amériques, Golbey, 88190, France	100%
Trane Sweden AB	Trading Company	Flygfältsgatan 8, SE-128 30 Skarpnäck, Sweden	100%
Trane Systems Solutions of Panama, Inc.	Trading Company	Edificio Blue Business Center Oficina 5-3, Calle 67, San Francisco, Ciudad de Panama, Panama	100%
Trane Taiwan Distribution Ltd.	Trading Company	6F-1, No. 338, Wen-Lin Road, Shih Lin 111, Taipei, Taiwan Province of China	100%
Trane Technologies Charitable Foundation	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Technologies Company LLC	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Technologies Costa Rica Sociedad Anonima	Trading Company	Apartado 664-1000, San Jose, Costa Rica	100%
Trane Technologies European Holding Company B.V.	Holding Company	Produktieweg 10, Zoeterwoude, 2382PB, Netherlands	100%
Trane Technologies Financial Services Corporation	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Technologies Financing Limited	Non-Operating	170/175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland	100%
Trane Technologies Finland OY	Non-Operating	Metsänneidonkuja 4, 02130 ESPOO, Finland	100%
Trane Technologies Funding Ltd.	Non-Operating	c/o Ocorian Services (Bermuda) Limited, Canon's Court, 22 Victoria Street, Hamilton, HM 12, Bermuda	100%
Trane Technologies Global Holding Company Limited	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Technologies Gmbh	Non-Operating	Max-Planck-Ring 27, 46049 Oberhausen, Germany	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Trane Technologies Holdco Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
Trane Technologies Holdings B.V.	Holding Company	Produktieweg 10, Zoeterwoude, 2382PB, Netherlands	100%
Trane Technologies India Private Limited	Operating	8th Floor, Tower D, IBC Knowledge Park, No. 4/1, Bannerghatta Main Road, Bangalore – 560029	100%
Trane Technologies Indústria, Comércio E Serviços de Ar-Condicionado Ltda.	Trading Company	Avenida dos Pinherais, 565, Blocos 2 e 4, Chapada, CEP 83.707-762, Araucária, PR, Brazil	100%
Trane Technologies International Finance Limited	Non-Operating	170/175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland	100%
Trane Technologies International Limited	Trading Company	170/175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland	100%
Trane Technologies Investments Netherlands B.V.	Holding Company	Driemanssteeweg 60, Rotterdam, 3084CB, Netherlands	100%
Trane Technologies Irish Holdings Unlimited Company	Holding Company	Monivea Road, Mervue, Galway, Ireland	100%
Trane Technologies Latin America B.V.	Non-Operating	Produktieweg 10, Zoeterwoude, 2382PB, Netherlands	100%
Trane Technologies Latin America, S. de R.L. de C.V.	Operating	Av. Nafta No. 750, Suite 1 Parque Industrial STIVA Aeropuerto Apodaca, Nuevo León 66600 Mexico	100%
Trane Technologies Lux Euro III Financing S.À R.L.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Technologies Lux Holdings II Company S.À R.L.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Technologies Lux International Holding Company S.À R.L.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Technologies Luxembourg Finance S.A.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Technologies Luxembourg United S.À R.L.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Technologies Manufactura, S. de R.L de C.V.	Manufacturing & Distribution	Avenue Nafta No. 750, Parque Industrial Stiva Aeropuerto, Apocada, Nuevo Leon, 66600, Mexico	100%
Trane Technologies Peru S.A.C.	Trading Company	Calle Los Antares N° 320, Centro Empresarial El Nuevo Trigal Torre A, Of. 908, Urbanización La Alborada, Santiago de Surco, Lima, Peru	100%
Trane Technologies Rus LLC	Trading Company	office XVIIa, floor 5, ulitsa Sergeya Makeeva 13, 123022, Moskow, Russian Federation	100%
Trane Technologies S.A.	Non-Operating	Boulevard de Perolles 55, c/o Ingersoll-Rand S.A., Fribourg, CH-1700, Switzerland	100%
Trane Technologies Sales Company, LLC	Trading Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE, 19808	100%
Trane Technologies Serviços Ltda.	Non-Operating	Avenida dos Pinherais, 565, Bloco 5, Chapada, CEP 83.707-762, Araucária, PR,Brazil	100%
Trane Technologies S.R.O.	Trading Company	č.p. 292, 280 02 Ovčáry, Czech Republic	100%
Trane Technologies Worldwide Capital S.À R.L.	Non-Operating	1 Avenue du Bois, L-1251, Luxembourg	100%
Trane Thermo King (Shanghai) Enterprise Management Co., Ltd.	Operating	10 Floor NO.99, Xianxia Road ChangNing District Shanghai China	100%
Trane Thermo King Pty Ltd	Operating	Unit 28/8 Avenue of the Americas, Newington, NSW, 2127	100%
Trane UK Limited	Operating	Harrow House, Bessemer Road, BASINGSTOKE Hampshire, RG21 3NB, England	100%

Name of Subsidiary	Nature of Business	Registered Office and Country of Incorporation	Percent of Ownership
Trane U.S. Inc.	Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE, 19808	100%
Trane Vidalia LLC	Non-Operating	c/o Corporation Service Company, 2 Sun Court Suite 400, Peachtree Corners, GA 30092	100%
Trane Vietnam Services Company Limited	Trading Company	Unit 901-903, Centre Point Bld, 106 Nguyen Van Troi St., Ward 8, Phu Nhuan Dist., Ho Chi Minh City. Vietnam	100%
Trane, S.A. De C.V.	Manufacturing & Distribution	Félix Guzmán 21, El Parque de los Remedios y Joselillo, Naucalpan, Mexico, CP, 53398, Mexico	100%
Tricool Thermal Limited	Non-Operating	ICS House, Stephenson Road, Calmore Industrial Estate, Totton, Southampton, Hampshire, SO40 3SA, United Kingdom	100%
TSI Anstalt Ltd.	Holding Company	Staedtle 36, Vaduz, FL-9490, Liechtenstein	100%
TUI Holdings Inc.	Holding Company	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%
TwentyThreeC, LLC	Operating	c/o Corporation Service Company 251 Little Falls Drive, Wilmington, DE 19808	65%
TYS Limited	Trading Company	25F, Devon House, Taikoo Place, 979 King's Road, Quarry Bay, Hong Kong	50%
World Standard Ltd.	Non-Operating	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808	100%

41. EVENTS SINCE THE END OF THE FINANCIAL YEAR

Dividends declared

On 4 February 2021, the Board of Directors declared a quarterly cash dividend of $0.59 per ordinary share, which was paid on 31 March 2021 to shareholders of record as of 5 March 2021.

Debt redeemed

On February 21, 2021, the Company paid off its 2.900% Senior notes due February 2021.

42. APPROVAL OF FINANCIAL STATEMENTS

The Board of Directors approved and authorised for issue the Consolidated Financial Statements in respect of the financial year ended 31 December 2020 on 7 April 2021.

Trane Technologies plc
Parent Company Balance Sheet
As at 31 December 2020

	Note	2020 $m	2019 $m
Fixed assets			
Financial assets	7	34,587.4	31,676.1
Current Assets			
Debtors	8	109.8	66.9
Cash at bank and in hand		—	—
		109.8	66.9
Creditors: amounts falling due within one year	9	(164.9)	(3,302.9)
Net current liabilities		(55.1)	(3,236.0)
Total assets less current liabilities		34,532.3	28,440.1
Creditors: amounts falling due after more than one year	10	(2.1)	(2.5)
Net assets		34,530.2	28,437.6
Capital and reserves			
Called-up share capital presented as equity	11	263.3	262.8
Share premium account		1,179.1	934.1
Capital redemption reserve	11	113.0	111.2
Revaluation reserve	11	21,819.5	16,570.7
Share based payment reserve		357.7	357.4
Profit and loss account		10,797.6	10,201.4
Total equity		34,530.2	28,437.6

The Parent Company recorded a profit of $2,794.8 million for the year ended 31 December 2020 (2019: profit $9.0 million).

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

The financial statements were approved by the Board of Directors on 7 April 2021 and signed on its behalf by:

/s/ Myles P. Lee
Myles P. Lee
Director

/s/ John P. Surma
John P. Surma
Director

Trane Technologies plc
Parent Company Statement of Changes in Equity
For the year ended 31 December 2020

	Note	Called-up Share Capital Presented as Equity $m	Share Premium Account $m	Capital Redemption Reserve $m	Revaluation Reserve $m	Share Based Payment Reserve $m	Profit and Loss Account $m	Total Equity $m
Balance as at 1 January 2019		266.4	650.6	104.8	6,943.1	366.5	11,452.0	19,783.4
Profit for the financial year		—	—	—	—	—	9.0	9.0
Proceeds from shares issued	11	2.8	283.5	—	—	—	—	286.3
Repurchase of ordinary shares	11	(6.4)	—	6.4	—	—	(750.1)	(750.1)
Revaluation of financial assets	7	—	—	—	9,627.6	—	—	9,627.6
Net share-based payment charge	11	—	—	—	—	(9.1)	—	(9.1)
Dividends paid	11	—	—	—	—	—	(509.5)	(509.5)
Balance as at 31 December 2019		262.8	934.1	111.2	16,570.7	357.4	10,201.4	28,437.6
Profit for the financial year			—	—	—	—	2,794.8	2,794.8
Proceeds from shares issued	11	2.3	245.0	—	—	—	—	247.3
Repurchase of ordinary shares	11	(1.8)	—	1.8	—	—	(250.0)	(250)
Revaluation of financial assets	7	—	—	—	8,738.8	—	—	8,738.8
Distribution of Industrial business		—	—	—	(3,490.0)	—	3,490.0	—
Distribution of Industrial business		—	—	—	—	7.4	(6,801.3)	(6,793.9)
Net share-based payment charge	11	—	—	—	—	(7.1)	—	(7.1)
Dividends paid	11	—	—	—	—	—	(507.7)	(507.7)
Gain on group re-organisations		—	—	—	—	—	1,870.5	1,870.5
Other		—	—	—	—		(0.1)	(0.1)
Balance as at 31 December 2020		263.3	1,179.1	113.0	21,819.5	357.7	10,797.6	34,530.2

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

Trane Technologies plc
Parent Company Statement of Comprehensive Income
For the financial year ended 31 December 2020

	Note	2020	2019
		$m	$m
Profit for the financial year		2,794.8	9.0
Other comprehensive income (loss):			
Revaluation of financial assets	7	8,738.8	9,627.6
Gain on group re-organisations		1,870.5	—
Total comprehensive income (loss) for the financial year		13,404.1	9,636.6

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

1. GENERAL INFORMATION

Trane Technologies plc is a public limited company incorporated under registered number 469272 in Ireland. The address of its registered office is 170-175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin.

2. STATEMENT OF COMPLIANCE

The parent financial statements have been prepared on the going concern basis and in compliance with Generally Accepted Accounting Practice in Ireland (applicable accounting standards issued by the Financial Reporting Council and the Companies Act 2014) including Financial Reporting Standard 102, 'The Financial Reporting Standard applicable in the United Kingdom and Republic of Ireland' (FRS 102).

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies used in the preparation of the financial statements are set out below. These policies have been consistently applied to all financial years presented, unless otherwise stated.

(a) Basis of preparation

The financial statements of Trane Technologies plc (the "Company") present the profit and loss account, the statement of comprehensive income, the balance sheet and the statement of changes in equity on a stand-alone basis, including related party transactions.

The financial statements have been prepared under the historical cost convention except for fixed asset investments (shares in group undertakings) that are measured on a valuation basis as explained in the accounting policies below.

The preparation of financial statements in conformity with FRS 102 requires the use of certain key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the financial year. FRS 102 also requires the directors to exercise their judgement in the process of applying the Company's accounting policies. The areas involving a higher degree of judgement or areas where assumptions and estimates have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are disclosed in Note 4.

(b) Going concern

The Company meets its day-to-day working capital requirements through its bank facilities and facilities with its Group undertakings.The Company's forecasts and projections, taking account of reasonably possible changes in operating performance, show that the Company should be able to operate within the level of its current facilities. Notwithstanding the Company's net current liabilities, and after making enquiries, the directors have a reasonable expectation that the use of the going concern basis of accounting is appropriate and have not identified material uncertainties related to events or conditions that may cast significant doubt about the ability of the Company to continue as a going concern.

(c) Disclosure exemptions for qualifying entities under FRS 102

FRS 102 allows a qualifying entity certain disclosure exemptions. As a qualifying entity the Company has availed of a number of exemptions from the disclosure requirements of FRS 102 in the preparation of the entity financial statements.

In accordance with FRS 102 the Company has availed of an exemption from the following paragraphs of FRS 102:

- Exemption from the requirements of Section 7 of FRS 102 and FRS 102 paragraph 3.17(d) to present a statement of cash flows.
- Exemption from the financial instrument disclosure requirements of Section 11 paragraphs 11.39 to 11.48A and Section 12 paragraphs 12.26 to 12.29A of FRS 102 as the equivalent disclosures are included in the consolidated financial statements of the group in which the entity is consolidated.
- Exemption from certain disclosure requirements of Section 26 of FRS 102 (paragraphs 26.18(b), 26.19 to 26.21 and 26.23, in respect of share-based payments as the share-based payment concerns its own equity instruments and its separate financial statements are presented alongside the consolidated financial statements of the group; and the equivalent disclosures are included in the consolidated financial statements of the group in which the entity is consolidated.
- Exemption from the requirement of FRS 102 paragraph 33.7 to disclose key management personnel compensation in total.

(d) Foreign currency

(i) Functional and presentation currency

The Company's functional and presentation currency is the U.S. dollar, denominated by the symbol "$" and unless otherwise stated, the financial statements have been presented in millions.

(ii) Transactions and balances

Transactions during the period denominated in foreign currencies have been translated at the rates of exchange ruling at the dates of the transactions. Assets and liabilities denominated in foreign currencies are translated to United States dollars at the rates of exchange at the balance sheet date. The resulting profits or losses are dealt with in the profit and loss account.

(e) Financial assets: Investments in group undertakings in the financial statements of the Company are stated at fair value at each reporting date. The revaluation is determined by reference to the market capitalisation of the Company at the close of trading of its Ordinary Shares on the New York Stock Exchange at each reporting date. A deficit on revaluation is charged to the profit and loss account to the extent that it is not covered by a surplus previously credited to the revaluation reserve.

(f) Dividend income from shares in group undertakings: Dividend income from group undertakings is recognized in the period in which they are received.

(g) Distributions paid to equity shareholders: Dividends may only be declared and paid out of the profits available for distribution in accordance with accounting practice generally accepted in Ireland and applicable Irish company law. Any dividends, if and when declared, will be declared and paid in U.S. dollars. Dividends declared by the directors are recognized when paid.

(h) Taxation: Corporation tax is provided on taxable profits at current rates. Deferred taxation is accounted for in respect of all timing differences at tax rates enacted or substantially enacted at the balance sheet date. Timing differences arise from the inclusion of items of income and expenditure in tax computations in periods different from those in which they are included in the financial statements. A deferred tax asset is only recognized when it is more likely than not the asset will be recoverable in the foreseeable future out of suitable taxable profits from which the underlying timing differences can be recovered.

(i) Share capital presented as equity: Ordinary shares are classified as Equity. Incremental costs directly attributable to the issue of new shares or options are shown in Equity as a deduction from the proceeds.

(j) Share premium: The difference between the proceeds received on issue of shares and the nominal value of the shares is credited to the share premium account.

(k) Ordinary shares acquired under share repurchase program: Share repurchases are made from time to time in accordance with management's capital allocation strategy, subject to market conditions and regulatory requirements. The cost of shares acquired and canceled upon repurchase is accounted for as a deduction from the profit and loss reserve. In addition, an amount equal to the nominal value of any shares cancelled is included within the capital redemption reserve as required by Section 106 (4) (a) of the Companies Act 2014. The cost of shares acquired and held upon repurchase is accounted as a deduction from the profit and loss reserve and classified as treasury shares until such shares are cancelled, reissued or disposed of. No gain or loss is recognised on the purchase, sale, issue or cancellation of the treasury shares. Where treasury shares are subsequently sold or reissued, any consideration received is included in Total Equity. Where treasury shares are subsequently cancelled, the nominal value of such shares is transferred to the capital redemption reserve as required by Section 106 (4) (a) of the Companies Act 2014.

(l) Share-based payments: The Company and its subsidiaries operate equity-settled share-based compensation plans. The fair value of the employee services received in exchange for the grant of the options has been valued using the Black-Scholes option-pricing model. In accordance with Section 26 of FRS 102 'Share-based Payments', the resulting cost for the Company's employees is charged to the profit and loss account over the vesting period. The value of the charge is adjusted to reflect expected and actual levels of awards vesting. The cost for awards granted to the Company's subsidiaries' employees represents additional capital contributions by the Company to its subsidiaries. An additional investment in subsidiaries has been recorded in respect of those awards granted to the Company's subsidiaries' employees, with a corresponding increase in the Company's shareholder equity. The additional capital contribution is based on the fair value at the grant date of the awards issued, allocated over the life of the underlying grant's vesting period. Proceeds received from employees, if any, for the exercise of share-based awards are credited to share capital (nominal value) and the balance to share premium.

With effect from 1 January 2017, the Company entered into Equity Recharge Agreements with some of its U.S. subsidiaries under which they have committed to pay the Company the grant-date fair value as well as subsequent movements in fair value of those awards at the time of delivery of its shares to their employees. The portion of the equity recharge amount in excess of the nominal value of the share issued is credited to the share premium account in accordance with section 71(5) of the Companies 2014 Act with the corresponding offset to related-party debtors. In addition, the recharge has the impact of reducing the investment in subsidiaries with a corresponding offset to the Company's shareholder equity. Note 32 of the Consolidated Financial Statements provides additional details of the Group share-based compensation plans.

(m) Contingencies: The Company has guaranteed certain liabilities and credit arrangements of the group. The Company reviews the status of these guarantees at each reporting date and considers whether it is required to make a provision for payment on those guarantees based on the probability of the commitment being called.

(n) Financial Instruments: The Company has chosen to adopt Sections 11 and 12 of FRS 102 in respect of financial instruments.

(i) Financial assets
Basic financial assets, including trade and other receivables and cash and bank balances, are initially recognised at transaction price, unless the arrangement constitutes a financing transaction, where the transaction is measured at the present value of the future receipts discounted at a market rate of interest. Such assets are subsequently carried at amortised cost using the effective interest method. At the end of each reporting period financial assets measured at amortised cost are assessed for objective evidence of impairment. If an asset is impaired the impairment loss is the difference between the carrying amount and the present value of the estimated cash flows discounted at the asset's original effective interest rate. The impairment loss is recognised in profit or loss. If there is a decrease in the impairment loss arising from an event occurring after the impairment was recognised the impairment is reversed. The reversal is such that the current carrying amount does not exceed what the carrying amount would have been had the impairment not previously been recognised. The impairment reversal is recognised in profit or loss.

Financial assets are derecognised when (a) the contractual rights to the cash flows from the asset expire or are settled, or (b) substantially all the risks and rewards of the ownership of the asset are transferred to another party or (c) control of the asset has been transferred to another party who has the practical ability to unilaterally sell the asset to an unrelated third party without imposing additional restrictions.

(ii) Financial liabilities
Basic financial liabilities, including trade and other payables, bank loans, and loans from fellow group companies, are initially recognised at transaction price, unless the arrangement constitutes a financing transaction, where the debt instrument is measured at the present value of the future receipts discounted at a market rate of interest.

Trade creditors are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade creditors are classified as current liabilities if payment is due within one year or less. If not, they are presented within creditors amounts falling due after more than one year.

Financial liabilities are derecognised when the liability is extinguished, that is when the contractual obligation is discharged, cancelled or expires.

(o) Employee benefits: The Company provides a range of benefits to employees, including short term employee benefits such as annual bonus arrangements and paid holiday arrangements and post-employment benefits (in the form of defined contribution pension plans).

(i) Short-term employee benefits
Short-term employee benefits, including paid holiday arrangements and other similar non-monetary benefits, are recognised as an expense in the financial year in which employees render the related service. The Company operates an annual bonus plan for employees. An expense is recognised in the profit and loss account when the Company has a present legal or constructive obligation to make payments under the plan as a result of past events and a reliable estimate of the obligation can be made.

(ii) Post-employment benefits
The Company operates a defined contribution plan for certain employees. A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further contributions or to make direct benefit payments to employees if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods. The assets of the plan are held separately from the Company in independently administered funds. The contributions to the defined contribution plan are recognised as an expense when they are due. Amounts not paid are shown in accruals in the balance sheet.

(p) Cash at bank and in hand: Cash at bank and in hand includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less. Bank overdrafts are shown within borrowings in current liabilities. Cash at bank and in hand is initially measured at transaction price and subsequently measured at amortised cost. Bank deposits which have original maturities of more than three months are not cash at bank and in hand and are presented as current asset investments.

4. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

In the application of the Company's accounting policies, which are described above in Note 3, the directors are required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods. There are no specific critical accounting estimates or judgements in the current year.

5. EMPLOYEES AND DIRECTORS' REMUNERATION

(i) Employees
The average number of persons employed in administration by the Company in 2020 was 4 (2019: 3).

	2020 $m	2019 $m
Wages and salaries	0.2	0.2
Social insurance costs	—	—
Other retirement benefit costs	—	—
Total	0.2	0.2

(ii) Directors (executive and non-executive)

	2020 $m	2019 $m
Emoluments	3.9	3.9
Gains by the directors on the exercise of share options	—	—
Benefits under long-term incentive schemes	0.3	0.3
Contributions to defined benefit retirement schemes	—	—
Compensation for loss of office paid by the Company and other termination payments	—	—
Total	4.2	4.2

The emoluments above were paid directly by the Company. Refer to Note 11 in the Consolidated Financial Statements for details of directors' remuneration paid by the Group.

6. AUDITORS REMUNERATION

Remuneration (including expenses) for the statutory audit and other services carried out for the Company by the Company's auditors is as follows:

	2020 $m	2019 $m
Audit of the entity financial statements (including expenses)	0.2	0.2
Other assurance services	—	—
Tax advisory services	—	—
Other non-audit services	—	—
	0.2	0.2

Note 9 of the Consolidated Financial Statements provides additional details of fees paid by the Group.

7. FINANCIAL FIXED ASSETS - SHARES IN GROUP UNDERTAKINGS

	2020	2019
	$m	$m
At 1 January	31,676.1	22,069.4
Additions [(1)]	7,769.6	—
Capital contribution relating to share-based payments	5.5	(20.9)
Distribution of Industrial business [(2)]	(6,801.3)	—
Disposal [(1)]	(6,801.3)	—
Revaluation	8,738.8	9,627.6
At 31 December	34,587.4	31,676.1

	2020	2019
Historical cost of revalued assets	$m	$m
At cost	8,318.4	7,341.6
Revaluation	26,269.0	24,334.5
Carrying amount	34,587.4	31,676.1

[(1)] During the year the Company acquired 100% interest in Ingersoll Rand Services Company and Ingersoll Rand US Holdco and disposed of Ingersoll Rand Services Company and Ingersoll Rand US Holdco.
[(2)] During the year the Company distributed its former Industrial business through a pro rata distribution to shareholders of records as at 24 February 2020.

Subsidiaries

Details of the Company's direct subsidiaries as at 31 December 2020 are as follows:

Subsidiary Company and Registered Office	Country of Incorporation	Principal Activity	Holding %
Trane Technologies Funding Limited Canons Court, 22 Victoria Street, Hamilton, Bermuda	Bermuda	Non-Operating	100 %
Trane Technologies U.S. HoldCo, Inc. 800-E Beaty Street, Davidson, NC 28036	United States	Holding Company	100 %
Trane Technologies Irish Holdings Unlimited Company 170-175 Lakeview Drive, Airside Business Park, Swords, Co. Dublin, Ireland	Ireland	Holding Company	100 %
Trane Technologies Luxembourg United S.A.R.L 9, Allée Scheffer, L-2520 Luxembourg, Grand Duchy of Luxembourg	Luxembourg	Treasury Company	100 %
Frigoblock Grosskopf GmbH Weidkamp 274, Essen 45356, Germany	Germany	Holding Company	10 %
R&O Immobilien GmbH Max-Planck-Ring 27, 46049 Oberhausen, Germany	Germany	Holding Company	5.1 %

Details of indirect subsidiaries can be found in Note 40 of the 2020 Consolidated Financial Statements.

8. DEBTORS

	2020	2019
Amounts falling due within one year:	$m	$m
Loans advanced to a group undertaking	75.6	—
Amounts owed by group undertakings	33.7	66.5
Prepayments	0.5	0.3
At 31 December	109.8	66.9

Amounts owed by group undertakings are unsecured, interest free and repayable on demand. The directors consider that the carrying amount of debtors approximates their fair value.

9. CREDITORS –AMOUNTS FALLING DUE WITHIN ONE YEAR

	2020 $m	2019 $m
Trade creditors	1.8	1.0
Income tax deducted under PAYE	0.3	0.2
Pay related social insurance	—	—
Dividend withholding tax	3.5	3.2
Amounts due to group undertakings	155.8	3,295.4
Other creditors	3.5	3.1
At 31 December	164.9	3,302.9
Creditors for taxation and social welfare included in the table above:		
Income tax deducted under PAYE	0.3	0.2
Pay related social insurance	—	—
Dividend withholding tax	3.5	3.2
At 31 December	3.8	3.4

The amounts due to group undertakings are unsecured and have interest rates which ranged from 0.475% to 0.67% in 2020 (2019: 2.34% to 3.12%). The interest payable on amounts due to group undertakings is generally settled on a semi-annual or annual basis.

Trade creditors are payable at various dates in the next three months in accordance with the supplier's usual and customary credit terms. Tax amounts are payable in the timeframe set down in the relevant legislation. The directors consider that the carrying amount of trade creditors approximates to their fair value.

10. CREDITORS –AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

	2020 $m	2019 $m
Other creditors	2.1	2.5

Amounts included in other creditors relate to dividend accruals for unvested restricted stock units (RSUs) and performance share units (PSUs) that are expected to vest and fall due between two and three years.

11. SHARE CAPITAL AND RESERVES

Authorised share capital	Number in millions	$m
1,175,000,000 ordinary shares of $1 par value	1,175.0	1,175.0
10,000,000 preference shares of $0.001 par value	10.0	—
40,000 ordinary shares of €1.00 Euro par value	—	—
At 31 December 2020 and 31 December 2019	1,185.0	1,175.0

Allotted and fully paid - presented as equity

Ordinary shares of $1.00 each	Number	$m
At 1 January 2019	266,405,347	266.4
Issued during the financial year	2,800,973	2.8
Repurchase of ordinary shares	(6,401,381)	(6.4)
At 31 December 2019	262,804,939	262.8
Issued during the financial year	2,258,368	2.3
Repurchase of ordinary shares	(1,754,057)	(1.8)
At 31 December 2020	263,309,250	263.3

During 2020, a total of 2,258,368 (2019: 2,800,973) ordinary shares, each with a nominal value of $1.00, were issued for a consideration of $247.3 million (2019: $286.3 million) under the Company's share-based payment plans.

The holders of ordinary shares are entitled to such dividends that may be declared from time to time on such shares and are entitled to attend, speak and vote at the Annual General Meeting of the Company. On return of capital on a winding up, the holder of ordinary shares is entitled to participate in a distribution of surplus assets of the Company.

There were no Euro denominated ordinary shares or US dollar preference shares outstanding at 31 December 2020 or 2019.

Share repurchase program

Share repurchases are made from time to time in accordance with the Company's capital allocation strategy, subject to market conditions and regulatory requirements. In October 2018, the Company's Board of Directors authorized the repurchase of up to $1.5 billion of its ordinary shares under a share repurchase program (2018 Authorization) upon completion of the prior authorized share repurchase program. However, no material shares were repurchased under this program in 2018. During the year ended 31 December 2019, the Company repurchased and canceled approximately $750 million of its ordinary shares. During the year ended 31 December 2020, the Company repurchased and canceled approximately $250 million of its ordinary shares leaving approximately $500 million remaining under the 2018 Authorization. Additionally, through February 9, 2021, the Company repurchased approximately $100 million of our ordinary shares under the 2018 Authorization leaving approximately $400 million remaining under the 2018 Authorization. In February 2021, our Board of Directors authorized the repurchase of up to $2.0 billion of the Company's ordinary shares under a new share repurchase program (2021 Authorization) upon completion of the 2018 Authorization.

Shares repurchased and cancelled

During the year ended 31 December 2020, the Company repurchased 1,754,057 ordinary shares (2019: 6,401,381), or 0.66% of the ordinary shares in issue (2019: 2.43%) at an average price of $142.55 per share. These shares with a nominal value of $1.8 million were cancelled, giving rise to a capital redemption reserve of an equivalent amount as required by Section 106 (4) (a) of the Companies Act 2014. The aggregate consideration paid was $250 million (2019: $750.1 million) which is reflected as a reduction in the profit and loss account within Total equity.

Treasury shares held by the Company

At 31 December 2020, the total number of treasury shares held directly by the Company was 24,495,509 (2019: 24,495,509); the nominal value of these shares was $24,495,509 (2019: $24,495,509). During the year ended 31 December 2020 the Company did not acquire any treasury shares under the repurchase program. The total accumulated treasury shares acquired represent 9.3% (2019: 9.3%) of the ordinary shares in issue at 31 December 2020.

Own shares held by a subsidiary

At 31 December 2020, a subsidiary of the Company held 5,353 (2019: 4,388) ordinary shares of $1.00 each with an aggregate nominal value of $5,353 (2019: $4,388) in trust for a deferred compensation plan.

The following table summarises the movement in treasury shares held and own shares reserve:

	Number and aggregate nominal value of shares held			Cost of shares held		
	Treasury	Trust	Total	Treasury $m	Trust $m	Total $m
At 1 January 2019	24,495,509	4,545	24,500,054	1,719.1	0.3	1,719.4
Purchase of shares held in treasury	—	—	—	—	—	—
Purchase of shares held by employee trust	—	83	83	—	—	—
Exercise of share awards	—	(240)	(240)	—	—	—
At 31 December 2019	24,495,509	4,388	24,499,897	1,719.1	0.3	1,719.4
Purchase of shares held in treasury	—	—	—	—	—	—
Purchase of shares held by employee trust	—	1,215	1,215	—	—	—
Exercise of share awards	—	(250)	(250)	—	—	—
At 31 December 2020	24,495,509	5,353	24,500,862	1,719.1	0.3	1,719.4

The Company's reserves consisted of the following:

Share premium account

The share premium account comprises the excess of proceeds received in respect of share capital over the nominal value of shares issued.

Capital redemption reserve

The capital redemption reserve represents the nominal value of share capital repurchased and cancelled. At 31 December 2020 the reserve balance stands at $113.0 million (2019: $111.2 million).

Revaluation reserve

This reserve is used to record increases in the fair value of investments in group undertakings and decreases to the extent that such decrease relates to an increase on the same asset. At 31 December 2020 the reserve balance stands at $21,819.5 million (2019: $16,570.7 million).

Share-based payment reserve

The share-based payment reserve represents the cumulative charge of share options granted, which are not yet exercised and issued as shares, net of amounts recharged to subsidiaries. The share-based compensation charge, net of amounts recharged to subsidiaries during the financial year 2020 was $(7.1) million (2019: $(9.1) million).

Profit and loss account

The profit and loss account represents accumulated comprehensive income for the financial year and prior financial years plus the Irish High Court approved creation of distributable reserves through the reduction of the share premium account, plus the transfers from the revaluation reserve realised on the Security and Industrial Spin-off transactions, less share repurchases and acquisition of treasury shares less dividends paid in cash and in-kind.

The Company's share premium, capital redemption reserve, revaluation reserve and share-based payment reserves are undistributable reserves. Under Irish law, dividends and distributions cannot be made from undistributable reserves.

Dividends paid to shareholders

	2020 $m	2019 $m
First interim - paid $0.53c per Ordinary Share (2019: $0.53c)	126.8	127.7
Second interim - paid $0.53c per Ordinary Share (2019: $0.53c)	126.8	127.9
Third interim - paid $0.53c per Ordinary Share (2019: $0.53c)	127.1	127.4
Fourth interim - paid $0.53c per Ordinary Share (2019: $0.53c)	127.0	126.5
Total	507.7	509.5

Future dividends

Future dividends on our ordinary shares, if any, will be at the discretion of our Board of Directors and will depend on, among other things, our results of operations, cash requirements and surplus, financial condition, contractual restrictions and other factors that the Board of Directors may deem relevant, as well as our ability to pay dividends in compliance with the Irish Companies Act 2014. Under the Irish Companies Act 2014, dividends and distributions may only be made from distributable reserves.

Distributable reserves, broadly, means the accumulated realized profits (so far as not previously distributed or capitalized) less its accumulated, realized losses (so far as not previously written off in a reduction or reorganization of its share capital) of Trane Technologies plc. In addition, no distribution or dividend may be made unless the net assets of Trane Technologies plc are equal to, or in excess of, the aggregate of Trane Technologies plc's called up share capital plus undistributable reserves and the distribution does not reduce Trane Technologies plc's net assets below such aggregate.

12. FINANCIAL INSTRUMENTS

The Company does not undertake hedging activities on behalf of itself or any other companies within the Group. Financial instruments in the Company primarily take the form of loans to subsidiary undertakings.

13. CONTINGENCIES

Guarantees

To help secure cost effective finance facilities for its group undertakings, the Company has given cross party guarantees to some of its finance providers. At 31 December 2020 guarantees totaling $1,400.8 million (2019: $1,985.2 million) were in place in support of such facilities. The Company treats these guarantee contracts as contingent liabilities until such time as it becomes probable that a payment will be required under such guarantees.

Section 357 Guarantees

Pursuant to the provisions of Section 357(1)(b) of the Companies Act, 2014 the Company has guaranteed all commitments entered into, including amounts shown as liabilities (within the meaning of Section 357 of the Companies Act, 2014), by certain wholly-owned subsidiary undertakings in the Republic of Ireland for the financial year ended 31 December 2020 and has met the other conditions set out in Section 357 and, as a result, the following subsidiary undertakings; Trane Technologies Irish Holdings Unlimited Company and Trane Technologies International Limited have been exempted from the filing provisions of Sections 347 and 348 of the Companies Act, 2014.

14. RELATED PARTY TRANSACTIONS

The Company has not disclosed any other related party transactions as it has availed of the exemption available under the provisions of FRS 102 Section 33.1A “Related Party Disclosures” which exempts disclosure of transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by a member of that group.

15. EVENTS SINCE THE END OF THE FINANCIAL YEAR

Dividends declared

On 4 February 2021, the Board of Directors declared a quarterly cash dividend of $0.59 per ordinary share, which was paid on 31 March 2021 to shareholders of record as of 5 March 2021.

16. APPROVAL OF FINANCIAL STATEMENTS

The Board of Directors approved and authorised for issue the Company Financial Statements in respect of the financial year ended 31 December 2020 on 7 April 2021.