PENTAIR

2022 Irish Statutory Accounts

PENTAIR PUBLIC LIMITED COMPANY

Directors' Report and Consolidated Financial Statements

For the Financial Year Ended December 31, 2022

Company Registration Number: 536025

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DIRECTORS' REPORT

For the Year Ended December 31, 2022

The directors present their report, audited consolidated financial statements for the financial year ended December 31, 2022, which are set out on pages 1 to 77, and audited parent company financial statements for the financial year ended December 31, 2022, which are set out on pages 78 to 85.

Pentair plc is a public limited company, incorporated in Ireland under the Companies Act 2014.

The directors have elected to prepare the consolidated financial statements of Pentair plc in accordance with Section 279 of the Companies Act 2014, which provides that a true and fair view of the assets and liabilities, financial position and profit or loss may be given by preparing the financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of Part 6 of the Companies Act 2014.

The directors have elected to prepare the Pentair plc parent company financial statements in accordance with generally accepted accounting practice in Ireland ("Irish GAAP"), comprising the Financial Reporting Standards 102 ("FRS 102"), the Financial Reporting Framework applicable in the United Kingdom (the "U.K.") and Ireland, together with the Companies Act 2014. During the year ended December 31, 2022, the Company received a return of capital from a subsidiary company. Please refer to the parent company financial statements and note disclosures on pages 78 to 85.

Basis of presentation

The accompanying financial statements reflect the consolidated operations of the parent company (Pentair plc, the "Company" or "Parent Company") and its subsidiaries (Pentair plc and all its subsidiaries, hereinafter referred to as "Pentair," "we," "us," "our," or the "Group"). We report our results on a calendar year basis.

History and development

We are an Irish public limited company that was formed in 2014. We are the successor to Pentair Ltd., a Swiss corporation formed in 2012, and Pentair, Inc., a Minnesota corporation formed in 1966 and our wholly-owned subsidiary, under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Although our jurisdiction of organization is Ireland, we manage our affairs so that we are centrally managed and controlled in the U.K. and therefore have our tax residency in the U.K.

On July 28, 2022, as part of our Consumer Solutions reporting segment, we acquired the issued and outstanding equity securities of certain subsidiaries of Welbilt, Inc. ("Welbilt") and certain other assets, rights, and properties, and assumed certain liabilities, comprising Welbilt's Manitowoc Ice business ("Manitowoc Ice"), for approximately $1.6 billion in cash.

The Directors do not expect any material changes to the business in the upcoming year other than the new segmentation described below.

Our registered address is 10 Earlsfort Terrace, Dublin 2, Ireland. Our registered principal office is located at Regal House, 70 London Road, Twickenham, London, TW13QS U.K. Our management office in the United States ("U.S.") is located at 5500 Wayzata Boulevard, Suite 900, Golden Valley, Minnesota.

Principal activities

At Pentair, we help the world sustainably move, improve and enjoy water, life's most essential resource. From our residential and commercial water solutions to industrial water management and everything in between, Pentair is focused on creating a better world for people and our planet through smart, sustainable water solutions.

The key performance indicators, both financial and non-financial, are noted on pages 2 to 3 as well as page 21. The future developments of the Company are noted on pages 6 to 7, under "key trends and uncertainties regarding our existing business."

Pentair strategy

Our vision is to be the world's most valued sustainable water solutions company for our employees, customers and shareholders. As a company, we:

- Focus on growth in our core businesses and strategic initiatives;
- Accelerate digital, innovation, technology and environmental, social and governance ("ESG") investments;
- Expedite growth and drive margin expansion through our transformation program; and
- Build a high performance growth culture and deliver on our commitments while living our Win Right values.

New segmentation
Effective January 1, 2023, we reorganized our reporting segments to reflect how we are managing our business beginning in 2023. We believe the new alignment into three segments, Pool, Water Solutions and Industrial & Flow Technologies, will help us accelerate our efforts to improve customer experiences, differentiate our products and drive profitability for our shareholders.

As part of this reorganization, the legacy Consumer Solutions segment was divided into a Pool segment and a Water Solutions segment. The Industrial & Flow Technologies segment remains the same. All segment information presented throughout this 2022 Annual Report, with the exception of the table below, was prepared based on the reporting segments in place during 2022.

The below table presents net sales and segment income under the revised reporting segments (Pool, Water Solutions, and Industrial & Flow Technologies) for the years ended December 31, 2022 and 2021.

	December 31	
In millions	**2022**	**2021**
Net Sales		
Pool	$ 1,632.7	$ 1,572.0
Water Solutions	986.8	769.9
Industrial & Flow Technologies	1,500.8	1,421.4
Other	1.5	1.5
Consolidated	$ 4,121.8	$ 3,764.8
Segment income (loss)		
Pool	$ 462.1	$ 452.7
Water Solutions	149.0	101.7
Industrial & Flow Technologies	242.3	213.3
Other	(85.7)	(81.8)
Consolidated	$ 767.7	$ 685.9

Key performance indicators
Management evaluates performance based on net sales and segment income and utilizes free cash flow to assess the Group's cash flow performance. The segment income and free cash flow measures discussed below are considered "non-U.S. GAAP" financial measures and should be considered supplemental to and not a substitute for financial information prepared in accordance with U.S. GAAP.

Net sales from continuing operations increased by $357.0 million, or 9.5%, from $3,764.8 million in 2021 to $4,121.8 million in 2022. Segment income increased by $81.8 million, or 11.9%, from $685.9 million in 2021 to $767.7 million in 2022. Segment income represents equity income of unconsolidated subsidiaries and operating profit from continuing operations exclusive of intangible asset amortization, certain acquisition related expenses, costs of restructuring and transformation activities, impairments and other unusual non-operating items. Management utilizes this adjusted financial measure to assess the run-rate of its continuing operations against those of prior periods without the distortion of certain unusual, non-recurring or non-operational items.

The below table presents a reconciliation of profit from continuing operations before taxation to segment income:

In millions, except per-share data	Years ended December 31 2022	2021
Profit from continuing operations before taxation	$ 550.6	$ 626.8
Adjustments:		
Restructuring and other	32.4	7.5
Transformation costs	27.2	11.7
Inventory step-up	5.8	2.3
Intangible amortization	52.5	26.3
Pension and other post-retirement mark-to-market gain	(17.5)	(2.4)
Asset impairment and write-offs	25.6	—
Gain on sale of businesses	(0.2)	(1.4)
Russia business exit impact	4.7	—
Interest expense, net	61.8	12.5
Deal related costs and expenses	22.2	7.9
COVID-19 related costs and expenses	—	0.6
Legal accrual adjustments and settlements	0.2	(7.6)
Other expense	2.4	1.7
Segment income	$ 767.7	$ 685.9

Free cash flow from continuing operations decreased by $274.1 million, or 49.2%, from $557.3 million in 2021 to $283.2 million in 2022. The Group believes free cash flow is an important measure of liquidity because it provides the Group and its investors a measurement of cash generated from operations that is available to pay dividends, repurchase shares and repay debt. In addition, free cash flow is used as criterion to measure and pay compensation-based incentives. Free cash flow represents cash flows from operating activities less capital expenditures plus proceeds from the sale of tangible assets. The Group's measure of free cash flow may not be comparable to similarly titled measures reported by other companies.

The following table is a reconciliation of free cash flow:

In millions	Years ended December 31 2022	2021
Net cash provided by operating activities of continuing operations	$ 364.3	$ 613.6
Capital expenditures of continuing operations	(85.2)	(60.2)
Proceeds from sale of tangible assets of continuing operations	4.1	3.9
Free cash flow from continuing operations	$ 283.2	$ 557.3
Net cash used for operating activities of discontinued operations	(1.0)	(0.4)
Free cash flow	$ 282.2	$ 556.9

The Group believes that these non-GAAP financial measures will be useful to investors in order to assess the continuing strength of the Group's underlying operations.

CONSOLIDATED RESULTS OF OPERATIONS

The consolidated results of continuing operations were as follows:

In millions	Years ended December 31 2022	2021	% / point change 2022 vs 2021
Net sales	$ 4,121.8	$ 3,764.8	9.5 %
Cost of goods sold	2,757.2	2,445.6	12.7 %
Gross profit	1,364.6	1,319.2	3.4 %
% of net sales	*33.1 %*	*35.0 %*	*(1.9) pts*
Selling, general and administrative	677.1	596.4	13.5 %
% of net sales	*16.4 %*	*15.8 %*	*0.6 pts*
Research and development	92.2	85.9	7.3 %
% of net sales	*2.2 %*	*2.3 %*	*(0.1) pts*
Operating profit	595.3	636.9	(6.5) %
% of net sales	*14.4 %*	*16.9 %*	*(2.5) pts*
Gain on sale of businesses	(0.2)	(1.4)	N.M.
Net interest expense	61.8	12.5	N.M.
Other income	(16.9)	(1.0)	N.M.
Profit from continuing operations before taxation	550.6	626.8	(12.2) %
Taxation	67.4	70.8	(4.8) %
Effective tax rate	*12.2 %*	*11.3 %*	*0.9 pts*

N.M. Not Meaningful

Net sales

The components of the consolidated net sales change were as follows:

	% Change
Volume	(7.1)%
Price	13.3
Core growth	6.2
Acquisition/Divestiture	5.5
Currency	(2.2)
Total	9.5 %

The 9.5 percent increase in consolidated net sales in 2022 from 2021 was primarily the result of:

- increases in selling prices to mitigate a rise in inflationary costs;
- increased sales from the acquisitions of Manitowoc Ice, Pleatco Holdings, LLC (“Pleatco”), and Ken’s Beverage, Inc (“KBI”) completed in the third quarter of 2022, fourth quarter of 2021 and second quarter of 2021, respectively;
- sales volume increase in our industrial solutions business within our Industrial & Flow Technologies segment; and
- sales volume increase in our commercial water solutions business within our Consumer Solutions segment.

This increase was partially offset by:

- sales volume decrease in our Consumer Solutions segment mainly driven by our pool and residential water treatment businesses;
- sales volume decrease in our residential and irrigation flow businesses within our Industrial & Flow Technologies segment; and
- unfavorable foreign currency effects in 2022 compared to the prior year.

Gross profit
The 1.9 percentage point decrease in gross profit as a percentage of net sales in 2022 from 2021 was primarily the result of:

- inflationary cost increases due to tight supply of raw materials such as metals, resins and electronics;
- higher logistics and labor costs due to increased demand, additional headcount and factory labor wage increases;
- decreased productivity in our Consumer Solutions pool and residential water treatment businesses due to decreased sales volumes;
- decreased productivity in our Industrial & Flow Technologies segment as a result of supply chain and plant inefficiencies;
- inventory impairments and write-offs and certain accruals of $19.6 million recorded as part of exiting businesses in our Consumer Solutions segment;
- amortization of inventory fair market value step-up of $5.8 million as a result of the Manitowoc Ice acquisition; and
- charges of $4.7 million recorded in 2022 for the write-off of inventory and costs related to contracts and orders that we will no longer fulfill in light of our exit of business activity and sales in Russia.

This decrease was partially offset by:

- increases in selling prices to mitigate impacts of inflation.

Selling, general and administrative ("SG&A")
The 0.6 percentage point increase in SG&A expense as a percentage of net sales in 2022 from 2021 was driven by:

- identifiable intangible asset amortization expense of $28.6 million related to the addition of Manitowoc Ice's definite-lived intangible assets in 2022;
- deal-related costs and expenses of $22.2 million in 2022, compared to $7.9 million in 2021;
- restructuring costs of $36.7 million in 2022, compared to $7.4 million in 2021; and
- transformation costs of $27.2 million in 2022, compared to $11.7 million in 2021.

This increase was partially offset by:

- higher employee incentive expense in 2021 compared to 2022 as a result of stronger financial performance in 2021 than initially forecasted.

Net interest expense
The increase in net interest expense in 2022 from 2021 was the result of:

- increased debt due to the acquisition of Manitowoc Ice;
- increased variable interest rates in 2022 compared to the prior year; and
- the amortization of debt issuance costs of $9.0 million in 2022 related to financing commitments for a bridge loan facility established in connection with the definitive agreement to purchase Manitowoc Ice.

Taxation
The 0.9 percentage point increase in the effective tax rate in 2022 from 2021 was primarily due to:

- the impact of favorable discrete items in 2021 that did not occur in 2022.

This *increase was partially offset by:*

- the favorable mix of global earnings.

Principal risks and uncertainties
Investors should carefully consider all of the information in this document and the following risk factors before making an investment decision regarding our securities. Any of the following risks could materially and adversely affect our business, financial condition, results of operations, cash flows and the actual outcome of matters as to which forward-looking statements are made in this document.

Key trends and uncertainties regarding our existing business
The following trends and uncertainties affected our financial performance in 2022, and are reasonably likely to impact our results in the future:

- We executed certain business restructuring initiatives aimed at reducing our fixed cost structure and realigning our business. We expect these actions to continue into 2023 and to drive margin growth.

- In 2021, we created a transformation office and launched and committed resources to the Transformation Program designed to accelerate growth and drive margin expansion by driving operational excellence, reducing complexity and streamlining our processes. During 2022, we made strategic progress on our Transformation Program initiatives with a primary focus on two of our four key themes of pricing excellence and strategic sourcing and built capabilities across all themes, including the other two of operations excellence and organizational effectiveness. We expect to continue to execute on our key Transformation Program initiatives to drive margin expansion and expect to continue to incur transformation costs in 2023 and beyond.

- We experienced supply chain challenges, including increased lead times for raw materials due to availability constraints and high demand for these materials. While we have elevated our engagement with our suppliers and used secondary suppliers and new methods of procurement where available to mitigate the supply chain pressures, we expect supply chain challenges to continue in 2023, and which may continue thereafter and could negatively impact our results of operations.

- We experienced inflationary increases in costs of raw materials such as metals, resins and electronics (including drives and motors), as well as increases in logistics, transportation and labor costs. While we have taken pricing actions and we strive for productivity improvements that could help offset these inflationary cost increases, we expect inflationary cost increases to continue in 2023, and which may continue thereafter and could negatively impact our results of operations.

- We experienced increased inventory levels in order to support market demand and reflect ongoing supply chain challenges. In the second half of 2022, we began to see inventory correcting within our residential distributor channels, which we expect to result in moderated volumes for the next few quarters as channel inventories normalize to more historical levels and could negatively impact our results of operations.

- Our backlog, primarily in our Consumer Solutions segment, decreased compared to the backlog at the end of 2021. Shipments outpaced new orders during the period as customers balanced the need to place new orders with market demand and channel inventory levels. This downward trend may continue in 2023 as we expect backlog to return to more historical levels and lead times to improve.

- We have identified specific product and geographic market opportunities that we find attractive and continue to pursue, both within and outside the U.S. We are reinforcing that our businesses more effectively address these opportunities through research and development and additional sales and marketing resources. Unless we successfully penetrate these markets, our core sales growth will likely be limited or may decline.

- The ongoing effects of the novel coronavirus 2019 ("COVID-19") pandemic continue to impact global economic conditions. There are many uncertainties regarding the COVID-19 pandemic, including the duration and severity of the pandemic, the spread of increasing number of virus variants, the extent of worldwide social, political and economic disruption it may continue to cause and the distribution and effectiveness of vaccines to address the COVID-19 virus. The broader implications of the COVID-19 pandemic that are reasonably likely to impact our business, financial condition, results of operations and cash flows cannot be determined at this time, and ultimately will be affected by a number of evolving factors including the length of time that the pandemic continues and the impact of vaccines on it, the impact of virus variants, the effectiveness of vaccinations, the pandemic's effect on the demand for our products and services, our supply chain, and our manufacturing and distribution capacity, as well as the impact of governmental regulations imposed in response to the pandemic. For more information regarding factors and events that may impact our business, results of operations and financial condition as a result of the COVID-19 pandemic, see *"Risks Relating to Our Business,"* below.

Risks Relating to Our Business

General global economic and business conditions affect demand for our products.

We compete in various geographic regions and product markets around the world. Among these, the most significant are global industrial, commercial, and residential markets. We have experienced, and expect to continue to experience, fluctuations in revenues and results of operations due to economic and business cycles. In particular, during 2021, we had higher than anticipated demand in our pool business and certain parts of our residential and commercial businesses. However, such demand in our pool and other residential businesses declined during 2022 and may not be repeated in future periods. Important factors for our businesses and the businesses of our customers include the overall strength of the global economy and various regional economies and our customers' confidence in these economies, industrial and governmental capital spending, the strength of residential and commercial real estate markets, residential housing markets, the commercial business climate, global supply chain stability, unemployment rates, availability of consumer and commercial financing, interest rates, inflation rates, and energy and commodity prices. Recessions, economic downturns, inflation, slowing economic growth and social and political instability in the industries and/or markets where we compete could negatively affect our revenues and financial performance in future periods, result in future restructuring charges, and adversely impact our ability to grow or sustain our business. For example, current macroeconomic and political instability caused by global supply chain disruptions, inflation, the strengthening of the U.S. dollar and the conflict between Russia and Ukraine, have and could continue to adversely impact our results of operations. The businesses of many of our industrial customers are to varying degrees cyclical and have experienced periodic downturns. While we attempt to minimize our exposure to economic or market fluctuations by serving a balanced mix of end markets and geographic regions, any of the above factors, individually or in the aggregate, or a significant or sustained downturn in a specific end market or geographic region could reduce demand for our products and services, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We compete in attractive markets with a high level of competition, which may result in pressure on our profit margins and limit our ability to maintain or increase the market share of our products.

The markets for our products and services are geographically diverse and highly competitive. We compete against large and well-established national and global companies, regional and local companies, diversified and pure-play companies, and lower cost manufacturers. Competition may also result from new entrants into the markets we serve offering products and/or services that compete with ours. We compete based on technical expertise, intellectual property, reputation for quality and reliability, timeliness of delivery, previous installation history, contractual terms, service offerings, customer experience and service, and price. Some of our competitors attempt to compete based primarily on price, localized expertise and local relationships, especially with respect to products and applications that do not require a great deal of engineering or technical expertise. In addition, during economic downturns, average selling prices tend to decrease as market participants compete more aggressively on price. Moreover, demand for our products, which impacts profit margins, is affected by changes in customer order patterns, such as changes in the levels of inventory maintained by customers and the timing of customer purchases, adoption of new technology and connected products, and changes in customers' preferences for our products, including the success of products offered by our competitors. Customer purchasing behavior may also shift by product mix in the market or result in a shift to new distribution channels. If we are unable to continue to differentiate our products, services and solutions or adapt to changes in customer purchasing behavior or shifts in distribution channels, or if we are unable to maintain our desired pricing or forced to incur additional costs to remain competitive, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our future growth is dependent upon our ability to transform and adapt our products, services, solutions, and organization to meet the demands of local markets in both developed and emerging economies and by developing or acquiring new technologies that achieve market acceptance with acceptable margins.

We operate in global markets that are characterized by customer demand that is often global in scope but localized in delivery. We compete with thousands of smaller regional and local companies that may be positioned to offer products produced at lower cost than ours, or to capitalize on highly localized relationships and knowledge that are difficult for us to replicate. Also, in several emerging markets, potential customers prefer local suppliers, in some cases because of existing relationships and in other cases because of local legal restrictions or incentives that favor local businesses. In addition, we need to be flexible to adapt our products to ever changing customer preferences, including those relating to regulatory, climate change and social responsibility matters. Accordingly, our future success depends upon a number of factors, including our ability to transform and adapt our products, services, solutions, organization, workforce and sales strategies to fit localities throughout the world, particularly in high growth emerging markets; identify emerging technological and other trends in our target end markets; and develop or acquire competitive technologies, products, services, and solutions and bring them to market quickly and cost-effectively. The failure to effectively adapt our products, services, or solutions could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may not be able to identify, finance and complete suitable acquisitions and investments, and any completed acquisitions and investments may be unsuccessful or consume significant resources.

Our business strategy includes acquiring businesses and making investments that complement our existing businesses. We continue to analyze and evaluate the acquisition of strategic businesses or product lines with the potential to strengthen our industry position or enhance our existing set of product, service, and solution offerings. We may not be able to identify suitable acquisition candidates, obtain financing or have sufficient cash necessary for acquisitions or successfully complete acquisitions in the future. Acquisitions and investments may involve significant cash expenditures, debt incurrences, equity issuances, operating losses and expenses. Acquisitions involve numerous other risks, including:

- diversion of management time and attention from daily operations;
- difficulties integrating acquired businesses, technologies and personnel into our business;
- difficulties in obtaining and verifying the financial statements and other business information of acquired businesses;
- inability to obtain required regulatory approvals;
- potential loss of key employees, key contractual relationships or key customers of acquired companies or of ours;
- assumption of the liabilities and exposure to unforeseen liabilities of acquired companies; and
- dilution of interests of holders of our shares through the issuance of equity securities or equity-linked securities.

It may be difficult for us to integrate acquired businesses efficiently into our business operations. Any acquisitions or investments may not be successful or realize the intended benefits and may ultimately result in impairment charges or have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may not achieve some or all of the expected benefits of our business initiatives.

During 2022 and 2021, we initiated and continued execution of certain business initiatives aimed at reducing our fixed cost structure and realigning our business. During 2021, we also launched and committed resources to a program designed to accelerate growth and drive margin expansion through transformation of our business model to drive operational excellence, reduce complexity and streamline our processes. As a result, we have incurred and expect to continue to incur in the future substantial expense, including transformation costs that include professional services, project management and related design and execution charges, as well as costs related to both labor and non-labor restructuring and IT investments, and restructuring charges. We may not be able to achieve accelerated growth and margin expansion or operating efficiencies to reduce costs or realize benefits that we anticipated in connection with these initiatives. If we are unable to execute these initiatives as planned, we may not realize all or any of the anticipated benefits, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may experience cost and other inflation.

During 2022 and 2021, we experienced inflationary cost increases of raw materials, such as metals, resins and electronics (including drives and motors), as well as increases in logistics, energy, insurance and labor costs (including wages, pension and health care), and we expect inflationary cost increases to continue in 2023. We strive for productivity improvements and implement increases in selling prices to help mitigate cost increases. We continue to implement operational initiatives to mitigate the impacts of inflation and continuously reduce our costs. However, these actions may not be successful in managing our costs or increasing our productivity and we anticipate inflation to continue with respect to materials (especially resins, copper, steel, stainless steel and electronics) as well as labor and logistics. Continued cost inflation or failure of our initiatives to increase prices, generate cost savings or improve productivity could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Interruption of our supply chain could affect our ability to produce or deliver our products and could negatively impact our business and profitability.

During 2022 and 2021, we experienced supply chain challenges, including increased lead times for raw materials due to availability constraints and high demand for these materials. These disruptions or our failure to effectively respond to them have increased and may continue to increase product, logistics or labor costs, limit availability of raw materials or cause delays in delivering our backlog or may cause an inability to deliver products to our customers or meet customer demand. While we have elevated our engagement with our suppliers and used secondary suppliers and new methods of procurement where available to mitigate the supply chain pressures, we expect supply chain challenges to continue in 2023. Any material interruption in our supply chain, such as material interruption of the supply of raw materials and components due to the casualty loss of any of our manufacturing plants; interruptions in service by our third-party logistic service providers or common carriers that ship goods within our distribution channels; unexpected delays in shipping or processing through customs of goods; trade restrictions, such as increased tariffs or quotas, embargoes or customs restrictions; or other unexpected or uncontrollable events that cause a material interruption in our supply chain such as pandemics (including COVID-19); social or labor unrest; natural disasters or political disputes and military conflicts; could negatively affect our ability to produce or deliver our products and have a negative material impact on our business and our profitability. Additionally, our raw materials and components are sourced from a wide variety of domestic and international business partners. We rely on these suppliers to provide high quality products and to comply with applicable laws. Our ability to find qualified suppliers who meet our standards and supply products in a timely and efficient manner may be a challenge, especially with respect to raw materials and components sourced from outside the U.S. and from countries or regions with diminished infrastructure, developing or failing economies or which are experiencing political instability or social unrest. For certain products, we may rely on one or very few suppliers. A supplier's failure to meet our standards, provide products in a timely and efficient manner, or comply with applicable laws is beyond our control. In addition, our competitors may be less reliant on third-party suppliers than we are, which may give such competitors more control over their supply chain and lead times for manufacturing products. These issues could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The COVID-19 pandemic may have a material negative impact on our business, financial condition, results of operations and cash flows.

Our business and financial results have been and may continue to be negatively impacted by the COVID-19 pandemic and its repercussions. The severity, magnitude and duration of the current COVID-19 pandemic remains uncertain, rapidly changing and hard to predict. In 2022 and 2021, the COVID-19 pandemic significantly impacted economic activity and markets around the world and our business, and it may negatively impact our business in numerous ways, including but not limited to those outlined below:

- Due to the impacts of the COVID-19 pandemic, we have experienced and may continue to experience reductions in customer demand for certain products and in certain end-markets.

- Our workforce may be unable or unwilling to work on-site or travel as a result of the continuing pandemic and related vaccine requirements, event cancellations, facility closures, shelter-in-place, travel and other restrictions and changes in industry practice, or if they, their co-workers or their family members become ill or otherwise require care arrangements. In addition, we have experienced disruptions at some of our facilities with higher absenteeism due to the COVID-19 pandemic.

- Government or regulatory responses to the COVID-19 pandemic have and may continue to negatively impact our business. Mandatory lockdowns or other restrictions on operations in some countries have previously temporarily disrupted our ability to manufacture in or distribute our products to or from some of these markets. A reoccurrence of these disruptions could materially adversely impact our operations and results. In addition to existing travel restrictions, jurisdictions may continue to close borders, impose increased vaccine or testing requirements, prolong quarantines and further restrict travel and business activity. These actions could cause related supply chain delays, which could significantly impact our ability to support our operations and customers, meet demand, develop new products, ship our backlog, impact the ability of our employees to get to their workplaces to produce products and services, or significantly hamper our products from moving through the supply chain.

We may not be able to predict or respond to all impacts of the COVID-19 pandemic on a timely basis to prevent near- or long-term adverse impacts to our results. There still remains much uncertainty around the COVID-19 pandemic and its duration, severity and ultimate impact; therefore, any negative impact on our business, financial condition (including without limitation our liquidity), results of operations and cash flows cannot be reasonably estimated at this time, but the COVID-19 pandemic could lead to extended disruption of economic activity and the impact on our business, financial condition, results of operations and cash flows could be material. The foregoing and other impacts of the COVID-19 pandemic could have the effect of heightening many of the other risks described herein and any of these impacts could materially adversely affect our business, financial condition, results of operations and cash flows.

We are exposed to political, regulatory, economic, trade, and other risks that arise from operating a multinational business.
Sales outside of the U.S. for the year ended December 31, 2022 accounted for 29% of our net sales. Further, most of our businesses obtain some products, components and raw materials from non-U.S. suppliers. Accordingly, our business is subject to the political, regulatory, economic, trade, and other risks that are inherent in operating in, and purchasing from, numerous countries. These risks include:

- changes in general economic and political conditions in countries where we operate, particularly in emerging markets;
- relatively more severe economic conditions in some international markets than in the U.S.;
- the imposition of sanctions, tariffs, duties, exchange controls, currency restrictions or other trade restrictions;
- changes in tax treaties, laws or rulings that could have a material adverse impact on our effective tax rate;
- the difficulty of enforcing agreements and collecting receivables through non-U.S. legal systems;
- the difficulty of communicating and monitoring evolving standards and directives across our product lines, services, and global facilities;
- the difficulty of ensuring that our products, services and supply chains meet ever-changing regional regulations and requirements;
- trade protection measures and import or export licensing requirements and restrictions;
- the possibility of military conflicts or terrorist action affecting us, our operations, supply chains or our end-markets;
- the threat of nationalization and expropriation;
- changes due to nationalist consumer sentiment;
- the difficulty in staffing and managing widespread operations in non-U.S. labor markets;
- limitations on repatriation of earnings or other regionally-imposed capital requirements;
- the difficulty of protecting intellectual property in non-U.S. countries; and
- changes in and required compliance with a variety of non-U.S. laws and regulations, some of which may be incompatible.

Our success depends in part on our ability to anticipate and effectively manage these and other risks. We cannot assure that these and other factors will not have a material adverse effect on our international operations or on our business as a whole.

Changes in U.S. or foreign government administrative policy, including changes to existing trade agreements, could have a material adverse effect on us.
As a result of changes to U.S. or foreign government administrative policy, there may be changes to existing trade agreements; greater restrictions on free trade generally; significant increases in tariffs on goods including those imported into the U.S., particularly tariffs on products manufactured in Mexico, China, or other countries where we purchase, have operations or manufacture or sell products; prohibitions or restrictions on doing business with certain entities, including those with certain relationships with China; and adverse responses by foreign governments to U.S. trade policy, among other possible changes. It remains unclear what the U.S. administration or foreign governments, including China, will or will not do with respect to tariffs or international trade agreements and policies. A trade war; other governmental action related to tariffs or international trade

agreements; changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries where we currently purchase, have operations or manufacture and sell products; and any resulting negative sentiments towards the U.S. as a result of such changes, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Intellectual property challenges may hinder our ability to develop, engineer and market our products.

Patents, non-compete agreements, proprietary technologies, customer relationships, trademarks, trade names, and brand names are important to our business. Intellectual property protections, however, may not preclude competitors from developing products similar to ours, or from challenging our names or products. Our pending patent, copyright, and trademark registration applications, may not be accepted, or competitors may challenge the validity or scope of our patents, copyrights or trademarks. In addition, our patents, copyrights, trademarks and other intellectual property rights may not provide us a significant competitive advantage. Furthermore, our business strategy also includes expanding our smart products and Internet of Things offerings and there are many other companies that hold patents in this space. Over the past few years, we have noticed an increasing tendency for participants in our markets, including competitors, to use challenges to intellectual property as a means to compete. Patent and trademark challenges increase our costs to develop, engineer and market our products. We may need to spend significant resources monitoring, enforcing and defending our intellectual property rights, and we may or may not be able to detect infringement by third parties. If we fail to successfully enforce our intellectual property rights or register new patents, our competitive position could suffer, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We have significant goodwill and intangible assets and future impairment of our goodwill and intangible assets could have a material adverse effect on our results of operations.

We test goodwill and other indefinite-lived intangible assets for impairment on at least an annual basis, and more frequently if circumstances warrant. As of December 31, 2022, our goodwill and intangible assets were $4,347.2 million and represented 67% of our total assets. Declines in fair market value could result in future goodwill and intangible asset impairment charges.

A loss of, or material cancellation, reduction, or delay in purchases by or delivery of products to, one or more of our largest customers could harm our business.

Our net sales to our largest customer represented approximately 20% of our consolidated net sales in 2022. While we do not have any other customers that accounted for more than 10% of our consolidated net sales in 2022, we have other customers that are key to the success of our business. Our concentration of sales to a relatively small number of larger customers makes our relationship with each of these customers important to our business. Our success is dependent on retaining these customers, which requires us to successfully manage relationships and anticipate the needs of our customers in the channels in which we sell our products. Our customers also may be impacted by economic conditions in the industries of those customers, which could result in reduced demand for or a delay in purchases of our products. In addition, our customers may cancel orders for purchases of our products or may not order products at rates consistent with past order levels, including due to inventory rebalancing or corrections in channels. In addition, we may not be able to timely deliver products to our largest customers due to supply chain interruptions or otherwise. We cannot provide assurance that we will be able to retain our largest customers. In addition, some of our customers may shift their purchases to our competitors in the future. The loss of one or more of our largest customers, any material cancellation, reduction, or delay in purchases by or delivery of products to these customers, or our inability to successfully develop relationships with additional customers could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Catastrophic and other events beyond our control may disrupt operations at our manufacturing facilities and those of our suppliers, which could cause us to be unable to meet customer demands or increase our costs, or reduce customer spending.

If operations at any of our manufacturing facilities or those of our suppliers were to be disrupted as a result of significant equipment failures, natural disasters, earthquakes, power outages, fires, explosions, terrorism, military conflicts, cybersecurity attacks, adverse weather conditions, labor disputes, public health epidemics (including the COVID-19 pandemic) or other catastrophic events or disruptions outside of our control, we may be unable to fill customer orders and otherwise meet customer demand for our products. In particular, our pool business operations in North Carolina and California are in areas that are more susceptible to natural disasters such as hurricanes, wildfires, and earthquakes. These types of events may negatively impact residential, commercial and industrial spending in impacted regions or, depending on the severity, global spending. As a result, any of such events could have a material adverse effect on our business, financial condition, results of operations and cash flows. We maintain property insurance that we believe to be adequate to provide for reconstruction of facilities and equipment, and to cover business interruption losses resulting from any production interruption or shutdown caused by an insured loss. However, any recovery under our insurance policies may not offset the lost sales or increased costs that may be experienced during the disruption of operations, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Seasonality of sales and weather conditions could have a material adverse effect on our financial results.
We experience seasonal demand with end-customers and end-users within each of our business segments. Demand for pool equipment in the pool business within the Consumer Solutions segment and residential water supply, infrastructure and agricultural products in the businesses within the Industrial & Flow Technologies segment follows warm weather trends and is at seasonal highs from April to August. While historically we have attempted to mitigate the magnitude of the sales spikes in the pool business and in the businesses within the Industrial & Flow Technologies segment by employing some advance sale "early buy" programs (generally including extended payment terms and/or additional discounts), we cannot provide any assurance that should we use such programs in the future they will be successful. In addition, seasonal effects in the pool business and in the businesses within the Industrial & Flow Technologies segment may vary from year to year and be impacted by weather patterns, particularly by temperature, heavy flooding and droughts. Moreover, adverse weather conditions, such as cold or wet weather, may negatively impact demand for, and sales of, pool equipment in the pool business and residential water supply, commercial, infrastructure and agricultural products in the businesses within the Industrial & Flow Technologies segment.

Volatility in currency exchange rates could have a material adverse effect on our financial condition, results of operations and cash flows.
Sales outside of the U.S. for the year ended December 31, 2022 accounted for 29% of our net sales. Our financial statements reflect translation of items denominated in non-U.S. currencies to U.S. dollars. Therefore, if the U.S. dollar strengthens in relation to the principal non-U.S. currencies from which we derive revenue as compared to a prior period, our U.S. dollar reported revenue and income will effectively be decreased to the extent of the change in currency valuations, and vice-versa. During 2022, we experienced a reduction in revenue and profits as a result of the significant strengthening of the U.S. dollar against foreign currencies. Fluctuations in foreign currency exchange rates, most notably the strengthening of the U.S. dollar against the euro, could have a material adverse effect on our reported revenue in future periods. In addition, currency variations could have a material adverse effect on margins on sales of our products in countries outside of the U.S. and margins on sales of products that include components obtained from suppliers located outside of the U.S.

Risks Relating to Our Debt and Financial Markets

Increased leverage may harm our business, financial condition and results of operations.
As of December 31, 2022, we had $2,339.3 million of total debt outstanding on a consolidated basis. Our indebtedness increased materially in connection with our acquisition of Manitowoc Ice, which we funded with approximately $1.6 billion of new indebtedness. We and our subsidiaries may incur additional indebtedness in the future, subject to restrictions in our debt agreements. Our increased level of indebtedness and any future increases in our level of indebtedness may have important effects on our future operations, including, without limitation:

- we will have additional cash requirements in order to support the payment of interest on our outstanding indebtedness;
- increases in our outstanding indebtedness and leverage may increase our vulnerability to adverse changes in general economic and industry conditions, as well as to competitive pressure;
- our ability to obtain additional financing for working capital, capital expenditures, general corporate and other purposes may be reduced;
- our flexibility in planning for, or reacting to, changes in our business and our industry may be reduced; and
- our flexibility to make acquisitions and develop technology may be limited.

Our ability to make payments of principal and interest on and to refinance our indebtedness, including our existing debt as well as any future debt that we may incur, will depend on our ability to generate cash in the future from operations, financings or asset sales. Our ability to generate cash is subject to general economic conditions and financial, business and other factors affecting our operations, many of which are beyond our control. If we are unable to generate sufficient cash flow from operations in the future to service our debt and meet our other cash requirements, we may be required, among other things:

- to seek additional financing in the debt or equity markets;
- to refinance or restructure all or a portion of our indebtedness;
- to sell selected assets or businesses; or
- to reduce or delay planned capital or operating expenditures.

Such measures might not be sufficient to enable us to service our debt and meet our other cash requirements. In addition, any such financing, refinancing or sale of assets might not be available at all or on economically favorable terms.

Covenants in our debt instruments may adversely affect us.

Our credit agreements and indentures contain customary financial covenants, including those that limit the amount of our debt, which may restrict the operations of our business and our ability to incur additional debt to finance acquisitions. Our ability to meet the financial covenants may be affected by events beyond our control, and we cannot provide assurance that we will meet those tests. A breach of any of these covenants could result in a default under our credit agreements or indentures. Upon the occurrence of an event of default under any of our credit facilities or indentures, the lenders or trustees could elect to declare all amounts outstanding thereunder to be immediately due and payable and, in the case of credit facility lenders, terminate all commitments to extend further credit. If the lenders or trustees accelerate the repayment of borrowings, we cannot provide assurance that we will have sufficient assets to repay our credit facilities and our other indebtedness. Furthermore, acceleration of any obligation under any of our material debt instruments will permit the holders of our other material debt to accelerate their obligations, which could have a material adverse effect on our financial condition.

We may increase our debt or raise additional capital, our credit ratings may be downgraded in the future, or our interest rates may increase, each of which could affect our financial condition, and may decrease our profitability.

As of December 31, 2022, we had $2,339.3 million of total debt outstanding on a consolidated basis. We may increase our debt or raise additional capital in the future, subject to restrictions in our debt agreements. If our cash flow from operations is less than we anticipate, if our cash requirements are more than we expect, or if we intend to finance acquisitions, we may require more financing. However, debt or equity financing may not be available to us on acceptable terms, or at all. If we incur additional debt or raise equity through the issuance of additional capital shares, the terms of the debt or capital shares issued may give the holders rights, preferences and privileges senior to those of holders of our ordinary shares, particularly in the event of liquidation. The terms of the debt may also impose additional and more stringent restrictions on our operations than we currently have. If we raise funds through the issuance of additional equity, the percentage ownership of existing shareholders in our company would decline. If we are unable to raise additional capital when needed, our financial condition could be adversely affected.

Unfavorable changes in the ratings that rating agencies assign to our debt may ultimately negatively impact our access to the debt capital markets and increase the costs we incur to borrow funds. If ratings for our debt fall below investment grade, our access to the debt capital markets may become restricted. Additionally, our credit agreements generally include an increase in interest rates if the ratings for our debt are downgraded. To the extent that our interest rates increase, our interest expense will increase, which could adversely affect our financial condition, results of operations and cash flows.

Disruptions in the financial markets could adversely affect us, our customers and our suppliers by increasing funding costs or reducing availability of credit.

In the normal course of our business, we may access credit markets for general corporate purposes, which may include repayment of indebtedness, acquisitions, additions to working capital, repurchase of shares, capital expenditures and investments in our subsidiaries. Although we expect to have sufficient liquidity to meet our foreseeable needs, our access to and the cost of capital could be negatively impacted by disruptions in the credit markets, which have occurred in the past and made financing terms for borrowers unattractive or unavailable. These factors may make it more difficult or expensive for us to access credit markets if the need arises. In addition, these factors may make it more difficult for our suppliers to meet demand for products or for customers to purchase products or commence new projects, as suppliers and customers may experience increased costs of debt financing or difficulties in obtaining debt financing. Disruptions in the financial markets have had adverse effects on other areas of the economy and have led to a slowdown in general economic activity that may continue to adversely affect our businesses. One or more of these factors could adversely affect our business, financial condition, results of operations or cash flows.

Risks Relating to Legal, Regulatory and Compliance Matters

Violations of the U.S. Foreign Corrupt Practices Act, U.K. Bribery Act, and other anti-corruption laws outside the U.S. could have a material adverse effect on us.

The U.S. Foreign Corrupt Practices Act ("FCPA"), U.K. Bribery Act, and other anti-corruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials or other persons for the purpose of obtaining or retaining business. Recent years have seen a substantial increase in anti-bribery law enforcement activity, with more frequent and aggressive investigations and enforcement proceedings by both the U.S. Department of Justice and the SEC, increased enforcement activity by non-U.S. regulators and increases in criminal and civil proceedings brought against companies and individuals. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that are recognized as having governmental and commercial corruption and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure that our internal control policies and procedures will always protect us from negligent, reckless or criminal acts committed by our employees or third-party intermediaries. In the event that we believe or have reason to believe that our employees, customers, or agents have or may have violated applicable anti-corruption laws, including the FCPA, we may be required to investigate the relevant facts and circumstances, which can be expensive and require significant time and attention from senior management. Violations of these laws may require self-disclosure to government agencies and result in criminal or civil sanctions, which could disrupt our business and result in a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

Our failure to satisfy international trade compliance regulations, and changes in U.S. government and other applicable sanctions, could have a material adverse effect on us.

Our global operations require importing and exporting goods and technology across international borders on a regular basis. Certain of the products we sell are "dual use" products, which are products that may have both civil and military applications, or may otherwise be involved in weapons proliferation, and are often subject to more stringent export controls. From time to time, we obtain or receive information alleging improper activity in connection with imports or exports. Our policy mandates strict compliance with U.S. and non-U.S. trade laws applicable to our products. However, even when we are in strict compliance with law and our policies, we may suffer reputational damage if certain of our products are sold through various intermediaries to sanctioned entities or to entities operating in sanctioned countries. When we receive information alleging improper activity, our policy is to investigate that information and respond appropriately, including, if warranted, reporting our findings to relevant governmental authorities. Nonetheless, our policies and procedures may not always protect us from actions that would violate U.S. and/or non-U.S. laws. Any improper actions could subject us to civil or criminal penalties, including material monetary fines, or other adverse actions including denial of import or export privileges, and could damage our reputation and business prospects.

We are exposed to environmental laws, liabilities and litigation.

We are subject to U.S. federal, state, local and non-U.S. laws and regulations governing protection of the environment and worker health and safety. Compliance with these environmental, health and safety regulations could require us to satisfy environmental liabilities, increase the cost of manufacturing our products or otherwise have a material adverse effect on our business, financial condition, results of operations and cash flows. Any violations of these laws by us could cause us to incur unanticipated liabilities. We are also required to comply with various environmental laws and maintain permits, many of which are subject to renewal from time to time, for many of our businesses, and we could be adversely impacted if we are unable to renew existing permits or to obtain any additional permits that may be required. Compliance with environmental requirements also could require significant operating or capital expenditures or result in significant operational restrictions. We cannot provide assurance that we have been or will be at all times in compliance with environmental and health and safety laws. If we violate these laws, we could be fined, criminally charged or otherwise sanctioned by regulators.

We have been named as a defendant, target or a potentially responsible party ("PRP") in a number of environmental matters relating to our current or former businesses. We have disposed of a number of businesses and in certain cases, we have retained responsibility and potential liability for certain environmental obligations. We have received claims for indemnification from certain purchasers of businesses from us. We may be named as a PRP at other sites in the future for existing business units, as well as both divested and acquired businesses. In addition to clean-up actions brought by governmental authorities, private parties could bring individual or class-action claims due to the presence of, or exposure to, hazardous substances.

Certain environmental laws impose liability on current or previous owners or operators of real property for the cost of removal or remediation of hazardous substances at their properties or at properties at which they have disposed of hazardous substances. We have projects underway at several current and former manufacturing facilities to investigate and remediate environmental contamination resulting from our past operations or by the operations of divested or acquired businesses or other businesses that previously owned or used the properties. The cost of remediation and other environmental liabilities can be difficult to accurately predict. In addition, environmental requirements change and tend to become more stringent over time. Our eventual environmental remediation costs and liabilities could exceed the amount of our current reserves.

Our subsidiaries are party to asbestos-related litigation that could adversely affect our financial condition, results of operations and cash flows.

Our subsidiaries, along with numerous other companies, are named as defendants in a substantial number of lawsuits based on alleged exposure to asbestos-containing materials, substantially all of which relate to our discontinued operations. These cases typically involve product liability claims based primarily on allegations of manufacture, sale or distribution of industrial products that either contained asbestos or were attached to or used with asbestos-containing components manufactured by third parties. In addition, some cases brought against us involve the presence of asbestos at facilities that we own or used to own. Each case typically names a large number of product manufacturers, service providers and premises owners. Historically, our subsidiaries have been identified as defendants in asbestos-related claims. Our strategy has been, and continues to be, to mount a vigorous defense aimed at having unsubstantiated suits dismissed, and settling claims before trial only where appropriate. As of December 31, 2022, there were approximately 689 claims pending against our subsidiaries, substantially all of which relate to our discontinued operations. We cannot predict with certainty the extent to which we will be successful in litigating or otherwise resolving lawsuits in the future, and we continue to evaluate different strategies related to asbestos claims filed against us including the possibility of entity restructuring. Unfavorable rulings, judgments or settlement terms could have a material adverse impact on our business and financial condition, results of operations and cash flows. In addition, while most of the asbestos claims against us are covered by liability insurance policies from many years ago, not all claims are insured. As our insurers resolve claims relating to past policy periods, the aggregate coverage provided by those policies erodes. If we exhaust our coverage under those policies, we will be exposed to potential uninsured losses. Over time, the uninsured portion of our asbestos docket may increase, which may require us to set greater reserves to resolve future asbestos cases.

Failure to comply with the broad range of standards, laws and regulations in the jurisdictions in which we operate may result in exposure to substantial disruptions, costs and liabilities.

Our products, manufacturing facilities and business operations are subject to certain statutory and regulatory requirements. These laws and regulations impose on us increasingly complex, stringent and costly compliance activities, including but not limited to environmental, health, and safety protection standards and permitting, labeling and other requirements regarding (among other things) product efficiency and performance, material makeup, air quality and emissions, and wastewater discharges; the use, handling, and disposal of hazardous or toxic materials; remediation of environmental contamination; and working conditions for and compensation of our employees. We may also be affected by future standards, laws or regulations, including those imposed in response to energy, climate change, product functionality, geopolitical, corporate social responsibility, or similar concerns. These standards, laws, or regulations may impact our costs of operation, the sourcing of raw materials, and the manufacture and distribution of our products and place restrictions and other requirements or impediments on the products and solutions we can sell in certain geographical locations or on the willingness of certain investors to own our shares.

We are exposed to certain regulatory, financial and other risks related to climate change and other sustainability matters.

Climate change is receiving ever increasing attention worldwide. Many scientists, legislators and others attribute global warming to increased levels of greenhouse gases, which has led to significant legislative and regulatory efforts to limit greenhouse gas emissions. The U.S. Environmental Protection Agency ("EPA") has published findings that emissions of carbon dioxide, methane, and other greenhouse gases ("GHGs") present an endangerment to public health and the environment because emissions of such gases are, according to the EPA, contributing to the warming of the earth's atmosphere and other climate changes. Based on these findings, the EPA has implemented regulations that require reporting of GHG emissions, or that limit emissions of GHGs from certain mobile or stationary sources. In addition, the U.S. Congress and federal and state regulatory agencies have considered other legislation and regulatory proposals to reduce emissions of GHGs, and many states have already taken legal measures to reduce emissions of GHGs, primarily through the development of GHG inventories, GHG permitting and/or regional GHG cap-and-trade programs. It is uncertain whether, when and in what form a federal mandatory carbon dioxide emissions reduction program, or other state programs, may be adopted. Similarly, certain countries have adopted the Kyoto Protocol and in February 2021, the U.S. rejoined the Paris Accord. These and other existing or potential international initiatives and regulations could affect our international operations. To the extent our customers, particularly our energy and industrial customers, are subject to any of these or other similar proposed or newly enacted laws and regulations, we are exposed to risks that the additional costs by customers to comply with such laws and regulations could impact their ability or desire to continue to operate at similar levels in certain jurisdictions as historically seen or as currently anticipated, which could negatively impact their demand for our products and services. As customers become increasingly concerned about the environmental impact of their purchases, if we fail to keep up with changing regulations or innovate or operate in ways that minimize the energy use of our products or operations, customers may choose more energy efficient or sustainable alternatives. These actions could also increase costs associated with our operations, including costs for raw materials and transportation. We may also be subject to consumer lawsuits or enforcement actions by governmental authorities if our ESG claims relating to product marketing are inaccurate. It is uncertain what laws will be enacted and therefore we cannot predict the potential impact of such laws on our future financial condition, results of operations and cash flows. The laws and regulations regarding ESG disclosures and requirements are rapidly evolving and could have an adverse effect on our operations and the costs of compliance with, and the other burdens imposed by, these and other laws or regulatory actions may increase our operational costs.

As part of our strategy regarding environmental, climate change and sustainability matters, we have set and may set additional targets aimed at reducing our impact on the environment and climate change and/or targets relating to other sustainability matters. In addition, as a leading provider of water treatment solutions, our business strategy includes positioning our products and services as sustainable solutions. Actions we take to achieve our targets or strategy could result in increased costs to our operations. We may not be able to achieve such targets or our desired impact, and any future investments we make in furtherance of achieving such targets and strategy may not meet investor expectations or standards regarding sustainability performance. Moreover, we may determine that it is in the best interest of our company and our shareholders to prioritize other business, social, governance or sustainable investments over the achievement of our current targets based on economic, regulatory and social factors, business strategy or pressure from investors or other stakeholders. In addition, investors and other stakeholders are increasingly focused on ESG matters, and as stakeholder ESG expectations and standards are evolving, we may not be able to sufficiently respond to these evolving standards and expectations. Furthermore, we could be criticized for the accuracy or completeness of the disclosure of our ESG initiatives. If we are unable to meet our targets or successfully implement our strategy or our ESG reporting is inaccurate or incomplete, then we could suffer from reputational damage and incur adverse reaction from investors and other stakeholders, which could adversely impact the perception of our brand and our products and services by current and potential investors and customers, which could in turn adversely impact our business, results of operations, or financial condition.

Increased cybersecurity threats and computer crime pose a risk to our systems, networks, products and services, and we are exposed to potential regulatory, financial and reputational risks relating to the protection of our data.

We rely upon information technology systems and networks in connection with a variety of business activities, some of which are managed by third parties. As our business increasingly interfaces with employees, customers, dealers and suppliers using information technology systems and networks, we are subject to an increased risk to the secure operation of these systems and networks. Our evolution into smart products and Internet of Things subjects us to increased cyber and technology risks. The secure operation of our information technology systems and networks is critical to our business operations and strategy. Cybersecurity threats from user error to attacks designed to gain unauthorized access to our systems, networks and data are increasing in frequency and sophistication. These threats pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of the data we process and maintain. Establishing systems and processes to address these threats may increase our costs. We have experienced cybersecurity incidents, and, although we have determined such cybersecurity incidents to be immaterial and such incidents have not had a material adverse effect on our financial condition, results of operations or cash flows, there can be no assurance of similar results in the future. Should future attacks succeed, it could expose us and our employees, customers, dealers and suppliers to the theft of assets, misuse of information or systems, compromises of confidential information, manipulation and destruction of data, product failures, production downtimes and operations disruptions. The occurrence of any of these events could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows. In addition, such cybersecurity incidents could result in litigation, regulatory action and potential liability and the costs and operational consequences of implementing further data protection measures.

Changes in data privacy laws and our ability to comply with them could have a material adverse effect on us.

We collect and store data that is sensitive to us and our employees, customers, dealers and suppliers. A variety of state, national, foreign and international laws and regulations apply to the collection, use, retention, protection, security, disclosure, transfer and other processing of personal and other data. Many foreign data privacy regulations, including the General Data Protection Regulation (the "GDPR") in the European Union, are more stringent than federal regulations in the United States. Within the United States, many states are considering adopting, or have already adopted privacy regulations, including, for example, the California Consumer Privacy Act. These laws and regulations are rapidly evolving and changing, and could have an adverse effect on our operations. Companies' obligations and requirements under these laws and regulations are subject to uncertainty in how they may be interpreted by courts and governmental authorities. The costs of compliance with, and the other burdens imposed by, these and other laws or regulatory actions may increase our operational costs, and/or result in interruptions or delays in the availability of systems. In the case of non-compliance with these laws, including the GDPR, regulators have the authority to levy significant fines. In addition, if there is a breach of privacy, we may be required to make notifications under data privacy laws or regulations, or could become subject to litigation. The occurrence of any of these events could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

We may be negatively impacted by litigation and other claims.

We are currently, and may in the future, become subject to litigation and other claims. These legal proceedings are typically claims that relate to our products or services or to the conduct of our business and include, without limitation, claims relating to commercial regulatory or contractual disputes with suppliers, authorities, customers or parties to acquisitions and divestitures; intellectual property matters; environmental, asbestos, safety and health matters; product quality and liability matters; matters arising from the use or installation of our products; consumer protection matters; and employment and labor matters. The outcome of such legal proceedings cannot be predicted with certainty and some may be disposed of unfavorably to us. Insurance coverage is not available for some of our claims and may be disputed by carriers in others. While we currently maintain what we believe to be suitable product liability insurance, we may not be able to maintain this insurance on our preferred terms or at an acceptable cost, and this insurance may not provide adequate protection against potential or previously existing liabilities. In addition, we self-insure a portion of product liability claims and must satisfy deductibles on other insured claims. Further, some of our business involves the sale of our products to customers that are constructing large and complex systems, facilities or other capital projects, and while we generally try to limit our exposure to liquidated damages, consequential damages and other potential damages in the contracts for these projects, we could be exposed to significant monetary damages and other liabilities in connection with the sale of our products for these projects for a variety of reasons. In addition, some of our businesses, customers, and dealers are subject to various laws and regulations regarding consumer protection and advertising and sales practices, and we have been named, and may be named in the future, as a defendant in litigation, some of which are or may be class action complaints, arising from alleged violation of these laws and regulations. In addition, our indemnification obligations relating to the purchase or sale of businesses could result in litigation or claims of unknown amounts. Successful claims or litigation against us for significant amounts could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

Risks Relating to Our Jurisdiction of Incorporation in Ireland and Tax Residency in the U.K.

We are subject to changes in law and other factors that may not allow us to maintain a worldwide effective corporate tax rate that is competitive in our industry.

While we believe that we should be able to maintain a worldwide effective corporate tax rate that is competitive in our industry, we cannot give any assurance as to what our effective tax rate will be in the future because of, among other things, uncertainty regarding tax policies of the jurisdictions where we operate. Also, the tax laws and treaties of the U.S., the U.K., Ireland and other jurisdictions could change in the future, and such changes could cause a material change in our worldwide effective corporate tax rate. In addition, legislative action could be taken by the U.S., the U.K., Ireland or the European Union that could override tax treaties or modify tax statutes or regulations upon which we expect to rely and adversely affect our effective tax rate. We cannot predict the outcome of any specific legislative proposals. If proposals were enacted that had the effect of disregarding our incorporation in Ireland or limiting our ability as an Irish company to maintain tax residency in the U.K., we could be subject to increased taxation, which could materially adversely affect our financial condition, results of operations, cash flows or our effective tax rate in future reporting periods.

A change in our tax residency could have a negative effect on our future profitability, and may trigger taxes on dividends or exit charges.

Under current Irish legislation, a company is regarded as resident for tax purposes in Ireland if it is incorporated in Ireland. Under current U.K. legislation, a company that is centrally managed and controlled in the U.K. is regarded as resident in the U.K. for taxation purposes unless it is treated as resident in another jurisdiction pursuant to any appropriate double tax treaty with the U.K. Other jurisdictions may also seek to assert taxing jurisdiction over us.

The Organization for Economic Co-operation and Development proposed a number of measures relating to the tax treatment of multinationals, some of which are implemented by amending double tax treaties through the multilateral convention to implement tax treaty-related measures to prevent base erosion and profit shifting (the “MLI”). The MLI has now entered into force for a number of countries, including Ireland and the U.K. Under the Double Tax Convention between Ireland and the U.K., as amended by the MLI, the residence tie-breaker provides that a company will remain dual resident unless there is a determination otherwise by the tax authorities of the two contracting states.

We have obtained a determination from the Competent Authorities of the Irish Revenue Commissioners and the U.K. HM Revenue & Customs which states that we are resident for tax purposes only in the U.K.

It is possible that in the future, whether as a result of a change in law or the practice of any relevant tax authority or as a result of any change in the conduct of our affairs, we could become, or be regarded as having become, resident in a jurisdiction other than the U.K. If we cease to be resident in the U.K. and become a resident in another jurisdiction, we may be subject to U.K. exit charges, and could become liable for additional tax charges in the other jurisdiction (including dividend withholding taxes or corporate income tax charges). If we were to be treated as resident in more than one jurisdiction, we could be subject to taxation in multiple jurisdictions. If, for example, we were considered to be a tax resident of Ireland, we could become liable for Irish corporation tax, and any dividends paid by us could be subject to Irish dividend withholding tax.

Irish law differs from the laws in effect in the United States and may afford less protection to holders of our securities.
It may not be possible to enforce court judgments obtained in the U.S. against us in Ireland based on the civil liability provisions of the U.S. federal or state securities laws. In addition, 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 the civil liabilities provisions of the U.S. federal or state securities laws or hear actions against us or those persons based on those laws. We have been advised that the U.S. currently does not have a treaty with Ireland providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any U.S. federal or state court based on civil liability, whether or not based solely on U.S. federal or state securities laws, would not automatically be enforceable in Ireland.

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 and shareholder lawsuits. Further, 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 U.S.

Irish law differs from the laws in effect in the United States, which may negatively impact our ability to issue ordinary shares.
Under Irish law, we must have authority from our shareholders to issue any ordinary shares, including shares that are part of our 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 ordinary shares under our equity compensation plans and, if applicable, to facilitate funding acquisitions or otherwise raise capital could be adversely affected.

Transfers of our ordinary shares may be subject to Irish stamp duty.
Transfers of our ordinary shares effected by means of the transfer of book entry interests in the Depository Trust Company ("DTC") will not be subject to Irish stamp duty. However, if you hold your ordinary shares directly rather than beneficially through DTC, any transfer of your ordinary shares could be subject to Irish stamp duty (currently at the rate of 1% of the higher of the price paid or the market value of the shares acquired). Payment of Irish stamp duty is generally a legal obligation of the transferee.

We currently intend to pay, or cause one of our affiliates to pay, stamp duty in connection with share transfers made in the ordinary course of trading by a seller who holds shares directly to a buyer who holds the acquired shares beneficially. In other cases we may, in our absolute discretion, pay or cause one of our affiliates to pay any stamp duty. Our articles of association provide that, in the event of any such payment, we (i) may seek reimbursement from the buyer, (ii) will have a lien against the shares acquired by such buyer and any dividends paid on such shares and (iii) may set-off the amount of the stamp duty against future dividends on such shares. Parties to a share transfer may assume that any stamp duty arising in respect of a transaction in our shares has been paid unless one or both of such parties is otherwise notified by us.

Our ordinary shares, received by means of a gift or inheritance could be subject to Irish capital acquisitions tax.
Irish capital acquisitions tax ("CAT") could apply to a gift or inheritance of our ordinary shares irrespective of the place of residence, ordinary residence or domicile of the parties. This is because our shares will be regarded as property situated in Ireland. The person who receives the gift or inheritance has primary liability for CAT. Gifts and inheritances passing between spouses are exempt from CAT. Children have a tax-free threshold of €335,000 per lifetime in respect of taxable gifts or inheritances received from their parents for periods on or after October 9, 2019.

General Risk Factors

Our share price may fluctuate significantly.
We cannot predict the prices at which our shares may trade. The market price of our shares may fluctuate widely, depending on many factors, some of which may be beyond our control, including:

- actual or anticipated fluctuations in our results of operations due to factors related to our business;
- success or failure of our business strategy;
- our quarterly or annual earnings, or those of other companies in our industry;
- our ability to obtain third-party financing as needed;
- announcements by us or our competitors of significant acquisitions or dispositions;
- changes in accounting standards, policies, guidance, interpretations or principles;
- changes in earnings estimates or guidance by us or securities analysts or our ability to meet those estimates or guidance;
- the operating and share price performance of other comparable companies;
- investor perception of us;
- effect of certain events or occurrences on our reputation;
- overall market fluctuations;
- results from any material litigation or governmental investigation or environmental liabilities;
- natural or other environmental disasters;
- changes in laws and regulations affecting our business; and
- general economic conditions and other external factors.

Stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations could have a material adverse effect on our share price.

Financial risk management

Interest rate risk

Our debt portfolio as of December 31, 2022, was comprised of debt predominantly denominated in U.S. dollars. This debt portfolio is comprised of 35% fixed-rate debt and 65% variable-rate debt. Changes in interest rates have different impacts on the fixed and variable-rate portions of our debt portfolio. A change in interest rates on the fixed portion of the debt portfolio impacts the fair value, but has no impact on interest incurred or cash flows. A change in interest rates on the variable portion of the debt portfolio impacts the interest incurred and cash flows but does not impact the net financial instrument position.

Based on the fixed-rate debt included in our debt portfolio, as of December 31, 2022, a 100 basis point increase or decrease in interest rates would result in a $50.1 million decrease or a $54.3 million increase in fair value, respectively.

Based on the variable-rate debt included in our debt portfolio as of December 31, 2022, a 100 basis point increase or decrease in interest rates would result in a $15.2 million increase or decrease in interest incurred.

Foreign currency risk

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. Periodically, we use derivative financial instruments to manage these risks. The functional currencies of our foreign operating locations are generally the local currency in the country of domicile. We manage these operating activities at the local level and revenues, costs, assets and liabilities are generally denominated in local currencies, thereby mitigating the risk associated with changes in foreign exchange. However, our results of operations and assets and liabilities are reported in U.S. dollars and thus will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar.

From time to time, we may enter into short duration foreign currency contracts to hedge foreign currency risks. As the majority of our foreign currency contracts have an original maturity date of less than one year, there is no material foreign currency risk. At December 31, 2022, we had outstanding foreign currency derivative contracts with gross notional U.S. dollar equivalent amounts of $9.4 million. Changes in the fair value of all derivatives are recognized immediately in income unless the derivative qualifies as a hedge of future cash flows. Gains and losses related to a hedge are deferred and recorded in the Consolidated Balance Sheets as a component of *Accumulated other comprehensive loss* and subsequently recognized in the Consolidated Profit and Loss Account and the Statement of Comprehensive Profit (Loss) when the hedged item affects earnings.

At December 31, 2022, we had outstanding cross currency swap agreements with a combined notional amount of $746.3 million. The cross currency swap agreements are accounted for as either cash flow hedges to hedge foreign currency fluctuations on certain intercompany debt, or as net investment hedges to manage our exposure to fluctuations in the Euro-U.S. Dollar exchange rate. The currency risk related to the cross currency swap agreements is measured by estimating the potential impact of a 10% change in the value of the U.S. dollar relative to the Euro. A 10% appreciation or a 10% depreciation of the U.S. dollar relative to the Euro would result in a change in accumulated other comprehensive income of approximately $55 million. However, the change in other comprehensive income would be offset by decreases or increases in the hedged items on our balance sheet.

Research and development

We conduct research and development ("R&D") activities primarily in our own facilities, which mostly consist of development of new products, product applications and manufacturing processes. We expense R&D costs as incurred. R&D expenditures from continuing operations during 2022 and 2021 were $92.2 million and $85.9 million, respectively.

Acquisition of own shares

In May 2018, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $750.0 million (the "2018 Authorization"). The 2018 Authorization expired on May 31, 2021. In December 2020, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $750.0 million (the "2020 Authorization"). The 2020 Authorization expires on December 21, 2025. The 2020 Authorization supplemented the 2018 Authorization.

During the year ended December 31, 2021, we repurchased 2.1 million of our ordinary shares, with a $0.01 par value per share, 0.8 million shares, or $50.0 million, and 1.3 million shares, or $100.0 million, were repurchased pursuant to the 2018 Authorization and 2020 Authorization, respectively.

During the year ended December 31, 2022, we repurchased 1.0 million of our ordinary shares, with a $0.01 par value per share, for $50.0 million under the 2020 Authorization. As of December 31, 2022, we had $600.0 million available for share repurchases under the 2020 Authorization.

Dividends

Dividends on our ordinary shares or reductions of share capital for distribution to shareholders, if any, must be approved by our board of directors for payment out of distributable reserves on our parent company statutory balance sheet. We are not permitted to pay dividends out of share capital, which includes share premiums. Our distributable reserve balance was $7.1 billion and $8.4 billion as of December 31, 2022 and 2021, respectively.

On December 12, 2022, the Board of Directors approved a 5 percent increase in the Company's regular quarterly dividend rate (from $0.21 per share to $0.22 per share) that was paid on February 3, 2023 to shareholders of record at the close of business on January 20, 2023. We paid dividends in 2022 of $138.6 million, or $0.84 per ordinary share, compared with $133.0 million, or $0.80 per ordinary share for 2021.

See Note 5 of the Company financial statements for shareholders' funds activity of the Company.

Non-Financial Information Statement

For the purpose of complying with European Union (Disclosure of Non-Financial and Diversity Information by Certain Large Undertakings and Groups) Regulations 2017, Statutory Instrument No. 360 of 2017, as amended by Statutory Instrument No. 410 of 2018, the table below and the information referred to therein is intended to help stakeholders understand our position on key non-financial matters. The information referenced below from our 2021 Corporate Responsibility Report ("CRR"), 2022 Form 10-K ("10-K") and 2022 Proxy Statement ("PS") is deemed to be incorporated into this part of the Directors' Report. Unless otherwise noted, the policies and other documents listed below are published on our website, www.pentair.com.

Reporting Requirements	Policies and Governing Standards	Additional Information / Risk Management
Environmental Matters (Including Climate-Related Information)	Environmental, Health & Safety Policy	Products and Solutions (CRR pages 16-23) Operations (CRR pages 24-36) Responsible Supply Chain (CRR pages 53-55)
Social and Employee Matters	Code of Business Conduct and Ethics Environmental, Health & Safety Policy Global Employee Privacy Policy(1)	Workplace (CRR pages 38-52) Community Impact (CRR pages 56-60)
Human Rights	Global Supplier Guide and Supplier Code of Conduct Slavery and Human Trafficking Statement Privacy and Data Security Notice Human Rights Policy	Governance-Labor and Human Rights (CRR page 69) Governance-Data Privacy & Cybersecurity (CRR page 70)
Anti-Corruption and Anti-Bribery	Code of Business Conduct and Ethics Anti-Bribery & Corruption Policy(1) Procedures Governing Interactions with Government Officials(1) Conflicts of Interest, Gifts & Entertainment Policy(1)	Governance-Code of Conduct (CRR page 62-63)
Supply Chain Matters and Conflict Minerals	Global Supplier Guide and Supplier Code of Conduct California Transparency in Supply Chains Act Disclosure Conflict Minerals Policy	Governance - Supplier Relationships (CRR page 62-63)
Description of Principal Risks and Impact of Business Activity		Risk Factors (10-K pages 6-18) Legal Proceedings (10-K page 18) Risk Oversight (PS page 16) Corporate Governance Principles
Description of the Business Model		Business (10-K pages 1-6) About Pentair (CRR pages 6-14) Products and Solutions (CRR pages 16-23) Operations (CRR pages 24-36)
Non-Financial Key Performance Indicators		Products and Solutions (CRR pages 16-23) Operations (CRR pages 24-36) Workplace (CRR pages 38-52)

(1) Not published externally

Company accounting records

We are responsible for ensuring that the Company keeps adequate accounting records and appropriate accounting systems. The measures taken by the directors to ensure compliance with the Company's obligation to keep adequate accounting records are the use of appropriate systems and procedures and the employment of competent persons. We have appointed a Chief Financial Officer and Chief Accounting Officer who makes regular reports to us and ensures compliance with the requirements of Sections 281-285 of the Companies Act 2014. In addition, the Company's Vice President of Internal Audit and the Company's General Counsel and Secretary each make regular reports to our Audit Committee regarding fraud and other financial-related irregularities. Our Audit Committee, in turn, briefs us on significant financial matters arising from reports of the Chief Financial

Officer and Chief Accounting Officer, the Vice President of Internal Audit, the external auditor and the General Counsel and Secretary.

The accounting records of Pentair plc are maintained at the Company's executive office at Regal House, 70 London Road, Twickenham, London, TW13QS U.K. and are readily accessible at Pentair plc's registered address of Arthur Cox, 10 Earlsfort Terrace, Dublin 2, D02 T380 Ireland.

Directors

Mona Abutaleb Stephenson, Melissa Barra, Glynis A. Bryan, T. Michael Glenn, Theodore L. Harris, David A. Jones, Gregory E. Knight, Michael T. Speetzen, John L. Stauch and Billie I. Williamson served as directors of Pentair plc throughout 2022. Each of the directors' terms expire at the 2023 annual general meeting of shareholders.

There were no changes to the composition of the Board during the financial year or since the financial year end.

Directors and Secretary's interests in shares

No director, the general counsel and secretary, or any member of their immediate family had any interest in shares or debentures of any subsidiary. Directors' remuneration is set forth in Note 24 to the consolidated financial statements. The interests of the directors and company secretary holding office at the year-end in the ordinary share capital of Pentair plc at the beginning of the financial year, or date of appointment if later, and at the end of the financial year were as follows:

	Number of ordinary shares of $0.01 each			
	December 31, 2022		December 31, 2021	
	Shares (1)	Options	Shares (1)	Options
Directors				
Mona Abutaleb Stephenson	11,008	—	8,858	—
Melissa Barra	2,149	—	—	—
Glynis A. Bryan	35,263	18,070	33,021	22,017
T. Michael Glenn	32,553	18,070	30,371	22,017
Theodore L. Harris	11,776	—	9,626	—
David A. Jones	78,756	18,070	75,013	22,017
Gregory E. Knight	4,899	—	2,749	—
Michael T. Speetzen	11,776	—	9,626	—
John L. Stauch	530,322	639,135	432,003	561,530
Billie I. Williamson	18,376	—	16,226	—
General Counsel and Secretary				
Karla C. Robertson	39,725	84,845	28,347	72,881

(1) The amounts in this column include ordinary shares owned by the director, both directly and indirectly, and unvested restricted stock units.

Audit Committee

In accordance with Section 167 of the Companies Act 2014, the Company has established an audit committee for the full financial year.

Statement on relevant audit information

Each of the persons who is a director at the date of approval of this report confirms that:

- so far as that director is aware, there is no relevant audit information of which the Company's auditor is unaware, and
- that director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

This confirmation is given and should be interpreted in accordance with the provisions of Section 330 of the Companies Act 2014.

Directors' Compliance Statement
As required by Section 225 of the Companies Act 2014, the directors acknowledge that they are responsible for securing Pentair plc's compliance with its "relevant obligations" (as defined in that legislation). The directors further confirm that a compliance policy statement has been drawn up, and that appropriate arrangements and structures have been put in place that are, in the directors' opinion, designed to secure material compliance with the relevant obligations. In discharging their responsibilities under Section 225, the directors relied on the advice of persons who the directors believe have the requisite knowledge and experience to advise Pentair plc on compliance with its relevant obligations. During the financial year to which this report relates, a review of the arrangements or structures referred to above have been conducted.

Political donations
No political contributions that require disclosure under Irish law were made during the financial year.

Subsidiary companies and branches
Information regarding subsidiary undertakings, including information regarding branches, is provided in Note 27 to the consolidated financial statements.

Going concern
The directors have a reasonable expectation that the Pentair plc Group and Company have adequate resources to continue in operational existence for the foreseeable future. Accordingly, they continue to adopt the going concern basis in preparing the financial statements.

Post balance sheet events
There were no material post balance sheet events.

Auditor
The auditor, Deloitte Ireland LLP, Chartered Accountants and Statutory Audit Firm, continues in office in accordance with Section 383(2) of the Companies Act 2014.

On behalf of the Directors

/s/ John L. Stauch	/s/ Glynis A. Bryan
Director	Director

February 21, 2023

PENTAIR PLC
DIRECTORS' RESPONSIBILITIES STATEMENT

The directors are responsible for preparing the directors' report and the financial statements in accordance with the Companies Act 2014.

Irish company law requires the directors to prepare financial statements for each financial year. Under the law, the directors have elected to prepare the Group financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"), as defined in Section 279 of the Companies Act 2014 to the extent that the use of those principles in preparation of the Group financial statements does not contravene any provision of Part 6 of the Companies Act 2014, and the parent company financial statements in accordance with FRS 102 The Financial Reporting Standard applicable in the U.K. and Ireland issued by the Financial Reporting Council ("relevant financial reporting framework"). Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the assets, liabilities and financial position of the Group and the Company as at the financial year end date and of the profit or loss of the Group for the financial year and otherwise comply with the Companies Act 2014.

In preparing the Group and company financial statements, the directors are required to:

- select suitable accounting policies for the Group and the parent company financial statements and then apply them consistently;
- make judgments and estimates that are reasonable and prudent;
- state whether the financial statements have been prepared in accordance with applicable accounting standards, identify those standards, and note the effect and the reasons for any material departure from those standards; 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 ensuring that the Company keeps or causes to be kept adequate accounting records which correctly explain and record the transactions of the Company, enable at any time the assets, liabilities, financial position and profit or loss of the Group and company to be determined with reasonable accuracy, enable them to ensure that the Group and company financial statements and directors' report comply with the Companies Act 2014 and enable financial statements to be audited. They 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.

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

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF PENTAIR plc (the "GROUP")

Report on the audit of the financial statements

Opinion on the financial statements of Pentair plc

In our opinion the Group and Parent Company financial statements:

- give a true and fair view of the assets, liabilities and financial position of the Group and Parent Company as at 31 December 2022 and of the profit of the Group for the financial year then ended; and
- have been properly prepared in accordance with the relevant financial reporting frameworks and, in particular, with the requirements of the Companies Act 2014.

The financial statements we have audited comprise:

the Group financial statements:

- the Consolidated Profit and Loss Account and the Statement of Comprehensive Profit (Loss);
- the Consolidated Balance Sheet;
- the Consolidated Statement of Cash Flows;
- the Consolidated Reconciliation of Movement in Shareholders' Funds; and
- the related notes 1 to 28, including a summary of significant accounting policies as set out in note 1.

the Parent Company financial statements:

- the Company Balance Sheet;
- the Company Statement of Changes in Equity; and
- the related notes 1 to 11, including a summary of significant accounting policies as set out in note 1.

The relevant financial reporting framework that has been applied in the preparation of the Group financial statements is the Companies Act 2014 and US Generally Accepted Accounting Principles (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 the financial statements does not contravene Part VI of the Companies Act 2014 ("the relevant financial reporting framework").

The relevant financial reporting framework that has been applied in the preparation of the Parent Company financial statements is the Companies Act 2014 and FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" issued by the Financial Reporting Council ("the relevant financial reporting framework").

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (Ireland) (ISAs (Ireland)) and applicable law. Our responsibilities under those standards are described below in the "*Auditor's responsibilities for the audit of the financial statements*" section of our report.

We are independent of the Group and Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in Ireland, including the Ethical Standard issued by the Irish Auditing and Accounting Supervisory Authority, as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Summary of our audit approach

Key audit matters	The key audit matters that we identified in the current year was: • Completeness of Uncertain Tax Positions. • Valuation of Manitowoc Ice Acquired Customer Relationship Intangible Asset
Materiality	The materiality that we used for the Group in the current year was $42,000,000 which was determined on the basis of profit before tax. The materiality that we used for the Company was $37,800,000 which was determined based on net assets.
Scoping	We focused our Group audit scope primarily on the audit work in 6 components which were subject to a full audit. Certain other components were subject to audits of specified balances where the extent of our testing was based on our assessment of the associated risks of material misstatement, and the materiality of the component's operations to the Group. Analytical review procedures were performed by the Group audit team on all other components within the Group.
Significant changes in our approach	The key audit matter relating to the *Valuation of Manitowoc Ice Acquired Customer Relationship Intangible Asset* is new for the current year as the company completed the acquisition during the year. There are no other significant changes to note.

Conclusions relating to going concern

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.

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 the going concern assessment prepared by the Group;
- Evaluating the design and determining the implementation of the relevant controls in place for the directors' review of forecasts;
- Evaluating the cash flow forecast prepared by the Group, including considering whether key assumptions used in the preparation of the forecast are reasonable and whether the forecast reflects the estimated economic impacts of risks relating to the business;
- Assessing the financing facilities available to the Group, the nature of the facilities, the repayment terms of those facilities and the financial covenants in debt agreements;
- Performing sensitivity analysis on the cash flow forecast;
- Assessing the amount of headroom available in respect of both the cash forecast and debt covenant compliance;
- Evaluating the Group's ability to forecast accurately based on assessment of the historical accuracy of budgets.
- Concluding on the adequacy of the financial statement disclosures relating to going concern.

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 and Parent Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

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

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current financial year and include the most significant assessed risks of material misstatement (whether or not due to fraud) we identified, 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 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.

A new key audit matter has been identified in the current year relating to the *Valuation of Manitowoc Ice Acquired Customer Relationship Intangible Asset* .

Completeness of Uncertain Tax Positions	
Key audit matter description	The Group assesses uncertain tax positions ("UTP") based upon an evaluation of available information and records a liability when a position taken or expected to be taken in a tax return does not meet certain measurement or recognition criteria. A tax benefit is recognized only if management believes it is more likely than not that the tax position will be sustained upon examination by the relevant tax authority. Determining the completeness of UTPs is complex and significant judgment by the directors is involved in identifying which positions may not meet the required measurement or recognition criteria. As of 31 December 2022, the Group's recorded UTP balance was \$39.6 million (2021: \$37.3 million). The UTP analysis is complex as it includes numerous tax jurisdictions and varying applications of tax laws. Given the multiple jurisdictions in which the Group operates and the complexity of tax regulations, auditing the completeness of UTPs involved a high degree of auditor judgment, and an increased extent of audit effort, including the need to involve our tax specialists. Refer also to note 1 (accounting policy for income taxes) and note 10 in the financial statements.
How the scope of our audit responded to the key audit matter	Our audit procedures to evaluate the completeness of UTPs in material jurisdictions included the following, among others: • We tested the effectiveness of relevant controls over management's determination of the existence of UTPs. • With the assistance of our income tax specialists, we assessed the Group's determination of the existence of UTPs. In particular, our procedures included: ◦ Evaluating the Group's significant judgments related to completeness of UTPs in material jurisdictions: ▪ We performed inquiries of management to assess whether they are aware of any new items or significant changes to the business that would impact the UTP assessment or give rise to new UTPs.

	▪ We evaluated the following: technical merits of existing UTPs, technical merits of potential UTPs, and significant transactions and their tax implications, including the completeness and accuracy of the underlying data supporting the transactions. ▪ We assessed the appropriateness and consistency of management's methods and assumptions used in identifying uncertain tax positions. ▪ We evaluated former and ongoing tax audits by tax authorities. ▪ We considered changes in and assessed the Group's interpretation of applicable tax laws. ▪ We inspected the Group's summary of differences between the filed tax returns and the tax provision to obtain an understanding of significant differences. We assessed whether the appropriate UTP was recorded as well as whether any additional UTPs needed to be considered.
Key observations	Based on the evidence obtained, we found that directors' judgement as to which uncertain tax positions in material jurisdictions do not meet the required measurement or recognition criteria is reasonable.

Valuation of Manitowoc Ice Acquired Customer Relationship Intangible Asset	
Key audit matter description	On July 28, 2022, the Group completed the acquisition of Welbilt Inc.'s Manitowoc Ice business ("Manitowoc Ice") for consideration paid of $1.6 billion. The Group accounted for the acquisition under the acquisition method of accounting for business combinations. Accordingly, the purchase price was allocated to the assets acquired and liabilities assumed based on their respective fair values, including a customer relationship intangible asset of $588.4 million. Management estimated the fair value of the customer relationship intangible asset using the multi-period excess earnings method, which is a specific discounted cash flow method. The fair value determination of the customer relationship intangible asset required management to make significant estimates and assumptions related to future cash flows, including margin and revenue growth assumptions, and the selection of the discount and customer attrition rates. We identified the valuation of the Manitowoc Ice customer relationship intangible asset as a key audit matter because of the significant estimates and assumptions management made to estimate the fair value of this asset. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's forecasts of future cash flows, including margin and revenue growth assumptions, and the selection of the discount and customer attrition rates for the customer relationship intangible asset. Refer also to note 1 (accounting policy for intangible assets) and note 5 in the financial statements.

How the scope of our audit responded to the key audit matter	Our audit procedures related to the forecasts of future cash flows, including the margin and revenue growth rates, and the selection of the discount and customer attrition rates for the acquired customer relationship intangible asset included the following, among others: • We tested the operating effectiveness of relevant controls over the valuation of the acquired customer relationship intangible asset, including management's controls over forecasts of future cash flows, and the selection of the discount and customer attrition rates. • We assessed the reasonableness of management's forecasts of future cash flows, including margin and revenue growth assumptions, by comparing the projections to historical results for Manitowoc Ice, certain peer companies' historical results, and industry reports. • With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) the discount and customer attrition rates by: ◦ Testing the source information underlying the determination of the discount and customer attrition rates. ◦ Comparing the selected customer attrition rate to the historical customer attrition rate observed by Manitowoc Ice. ◦ Testing the mathematical accuracy of the discount and customer attrition rate calculations. ◦ Developing a range of independent estimates and comparing those to the discount rate selected by management.
Key observations	Based on the evidence obtained, we found that the directors' judgement as to the valuation of Manitowoc Ice acquired customer relationship intangible asset is reasonable.

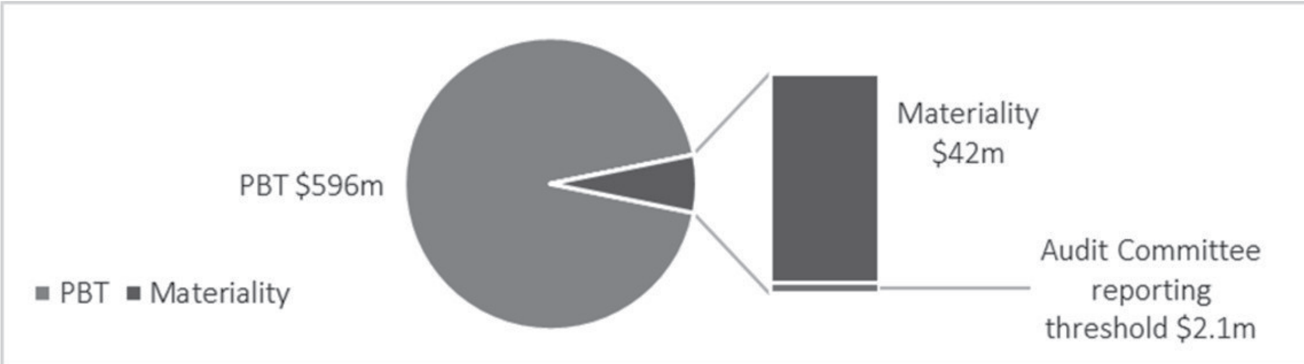
Our audit procedures relating to these matters were designed in the context of our audit of the financial statements as a whole, and not to express an opinion on individual accounts or disclosures. Our opinion on the financial statements is not modified with respect to any of the risks described above, and we do not express an opinion on these individual matters.

Our application of materiality

We define materiality as the magnitude of misstatement that makes it probable that the economic decisions of a reasonably knowledgeable person, relying on the financial statements, would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

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

	Group financial statements	**Parent company financial statements**
Materiality	\$42,000,000 (2021: \$40,000,000)	\$37,800,000 (2021: \$40,000,000)
Basis for determining materiality	We determined materiality for the Group based on 7.6% (2021: 6.4%) of profit before tax.	We determined materiality for the Parent Company based on 0.5% of net assets of the Parent Company.
Rationale for the benchmark applied	We have considered profit before tax to be the critical component for determining materiality because it is of the most importance to the principal external users of the financial statements.	As Pentair plc, the Parent Company, is a non-trading company, it does not generate significant revenues but instead incurs costs, thus net assets are of most relevance to the users of the financial statements.



We set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality for the financial statements as a whole.

	Group financial statements	**Parent company financial statements**
Performance materiality	80% of group materiality	80% of parent company materiality
Basis and rationale for determining performance materiality	In determining performance materiality, we considered the following factors: • Our understanding of the Group and its environment; • the reliability of Group's internal control over financial reporting and whether we were able to rely on controls; • The degree of centralisation and commons controls / processes; and • Any changes to the business that would impact on our ability to forecast potential misstatements.	

We agreed with the Audit Committee that we would report to them any audit differences in excess of $2,100,000 (2021: $2,000,000) as well as differences below that threshold which, in our view, warranted reporting on qualitative grounds. We also report to the Audit Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

An overview of the scope of our audit

We determined the scope of our audit by obtaining an understanding of the Group and its environment, including Group-wide controls, and assessing the risks of material misstatement at the Group level. Based on that assessment, we focused our Group audit scope primarily on the audit work of six components, which were subject to a full scope audit. The six significant components comprised 70% of tangible assets and 55% of net sales for the year ended December 31, 2022 (2021: seven significant components comprised 83% of total assets and 60% of net sales). They were also selected to provide an appropriate basis for undertaking audit work to address the risks of material misstatement identified above. Our audit work at the six components was executed at levels of materiality applicable to each individual component which were lower than Group materiality and ranged from $13.4 million to $26.9 million (2021: $16 million to $25.6 million).

We leveraged Deloitte component auditors for the Group audit in the United States. The Parent Company is audited directly by the Group audit team.

Other information

The other information comprises the information included in the Directors' Report and Consolidated Financial Statements, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

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 such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in 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 in this regard.

Responsibilities of directors

As explained more fully in the Directors' Responsibility Statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view and otherwise comply with the Companies Act 2014, and for such internal control as the directors 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 and 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 and Parent Company or to cease operations, or have no realistic alternative but to do so.

Auditor's 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 auditor's 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.

A further description of our responsibilities for the audit of the financial statements is located on IAASA's website at: https://iaasa.ie/publications/description-of-the-auditors-responsibilities-for-the-audit-of-the-financial-statements/. This description forms part of our auditor's report.

Extent to which the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

Identifying and assessing potential risks related to irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the Group and Parent Company's remuneration policies, key drivers for directors' remuneration, bonus levels and performance targets;

- results of our enquiries of management , internal audit and the audit committee about their own identification and assessment of the risks of irregularities;

- any matters we identified having obtained and reviewed the Group and Parent Company's documentation of their policies and procedures relating to:

    - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;

    - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud;

    - the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations.

- the matters discussed among the audit engagement team and relevant internal specialists, including tax, actuarial, IT and fair value specialists regarding how and where fraud might occur in the financial statements and any potential indicators of fraud.

As a result of these procedures, we considered the opportunities and incentives that may exist within the organisation for fraud and identified the greatest potential for fraud in the following area: Revenue recognition, pinpointed to the accuracy of accrued volume rebates. In common with all audits under ISAs (Ireland), we are also required to perform specific procedures to respond to the risk of management override.

We also obtained an understanding of the legal and regulatory frameworks that the Group and Parent Company operates in, focusing on provisions of those laws and regulations that had a direct effect on the determination of material amounts and disclosures in the financial statements. The key laws and regulations we considered in this context included the Irish Companies Acts, and tax legislation.

In addition, we considered provisions of other laws and regulations that do not have a direct effect on the financial statements but compliance with which may be fundamental to the Group and Parent Company's ability to operate or to avoid a material penalty. These included the United States Foreign Corrupt Practices Act.

Audit response to risks identified

As a result of performing the above, we did not identify any key audit matters related to the potential risk of fraud or non-compliance with laws and regulations.

In addition to the above, our procedures to respond to risks identified included the following:

- reviewing the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;

- enquiring of management, the audit committee and in-house legal counsel concerning actual and potential litigation and claims;

- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;

- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with the relevant regulatory authorities;

- in addressing the presumed risk of fraud in revenue recognition (accrued volume rebates), we have tested the operating effectiveness of relevant controls over the various rebate arrangements in the group on a sample basis, we agreed a number of rebates accrued at year end to customer agreements and assessed whether there were any material or one-off transactions;

- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

Opinion on other matters prescribed by the Companies Act 2014

Based solely on the work undertaken in the course of the audit, we report that:

- 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 financial statements to be readily and properly audited.

- The Parent Company balance sheet is in agreement with the accounting records.

- In our opinion the information given in the directors' report is consistent with the financial statements and the directors' report has been prepared in accordance with the Companies Act 2014.

Matters on which we are required to report by exception

Based on the knowledge and understanding of the Group and the Parent Company and its environment obtained in the course of the audit, we have not identified material misstatements in the directors' report.

The Companies Act 2014 requires us to report to you if, in our opinion, 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 (as amended) for the financial year. We have nothing to report in this regard.

We have nothing to report in respect of the provisions in the Companies Act 2014 which require us to report to you if, in our opinion, the disclosures of directors' remuneration and transactions specified by law are not made.

Use of our report

This report is made solely to the Company's members, as a body, in accordance with Section 391 of the Companies Act 2014. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ Gerard Casey
For and on behalf of Deloitte Ireland LLP
Chartered Accountants and Statutory Audit Firm
Deloitte & Touche House, Earlsfort Terrace, Dublin 2
22 February 2023

Pentair plc and Subsidiaries
Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss)

		Financial years ended December 31					
		2022			2021		
In millions, except per-share data	Note	Continuing Operations	Discontinued Operations	Total	Continuing Operations	Discontinued Operations	Total
Net sales	14	$ 4,121.8	$ —	$ 4,121.8	$ 3,764.8	$ —	$ 3,764.8
Cost of goods sold		2,757.2	—	2,757.2	2,445.6	—	2,445.6
Gross profit		1,364.6	—	1,364.6	1,319.2	—	1,319.2
Selling, general and administrative		677.1	2.3	679.4	596.4	2.8	599.2
Research and development		92.2	—	92.2	85.9	—	85.9
Operating profit (loss)		595.3	(2.3)	593.0	636.9	(2.8)	634.1
Gain on sale of businesses		(0.2)	—	(0.2)	(1.4)	—	(1.4)
Interest receivable and similar income		(20.5)	—	(20.5)	(17.6)	—	(17.6)
Interest payable and similar charges	16	82.3	0.2	82.5	30.1	—	30.1
Other income		(16.9)	—	(16.9)	(1.0)	—	(1.0)
Profit (loss) before taxation		550.6	(2.5)	548.1	626.8	(2.8)	624.0
Taxation	10	67.4	(0.2)	67.2	70.8	0.2	71.0
Profit (loss) of the group for the financial year		$ 483.2	$ (2.3)	$ 480.9	$ 556.0	$ (3.0)	$ 553.0
Comprehensive profit (loss), net of tax							
Profit (loss) of the group for the financial year		$ 483.2	$ (2.3)	$ 480.9	$ 556.0	$ (3.0)	$ 553.0
Changes in cumulative translation adjustment		(56.4)	—	(56.4)	(47.0)	—	(47.0)
Changes in market value of derivative financial instruments, net of tax		31.3	—	31.3	40.4	—	40.4
Comprehensive profit (loss)		$ 458.1	$ (2.3)	$ 455.8	$ 549.4	$ (3.0)	$ 546.4
Earnings (loss) per ordinary share							
Basic	3	$ 2.93	$ (0.01)	$ 2.92	$ 3.36	$ (0.02)	$ 3.34
Diluted	3	$ 2.92	$ (0.02)	$ 2.90	$ 3.32	$ (0.02)	$ 3.30

See accompanying notes to consolidated financial statements.

Pentair plc and Subsidiaries
Consolidated Balance Sheets

In millions	Note	December 31 2022	December 31 2021
Fixed assets			
Intangible assets	5	$ 4,347.2	$ 2,932.5
Tangible assets	18	344.5	310.0
Right-of-use assets		78.6	84.5
Financial assets	21	50.9	65.1
Total fixed assets		4,821.2	3,392.1
Current assets			
Stocks	7	790.0	562.9
Debtors	22	727.3	704.0
Cash at bank and in hand		108.9	94.5
Total current assets		1,626.2	1,361.4
Creditors (amounts falling due within one year)	19	968.9	1,068.5
Net current assets		657.3	292.9
Total assets less current liabilities		5,478.5	3,685.0
Creditors (amounts falling due after more than one year)	20	2,497.7	966.2
Provisions for liabilities	23	272.7	296.9
Net assets		$ 2,708.1	$ 2,421.9
Capital and Reserves			
Called-up share capital presented as equity	12	$ 1.7	$ 1.7
Share premium account		189.9	186.3
Other reserves		1,365.0	1,396.4
Profit and loss account		1,390.5	1,051.4
Accumulated other comprehensive loss	6	(239.0)	(213.9)
Total shareholders' funds		$ 2,708.1	$ 2,421.9

See accompanying notes to consolidated financial statements.

Approved by the Board of Directors on February 21, 2023 and signed on its behalf by:

/s/ John L. Stauch
Director

/s/ Glynis A. Bryan
Director

Pentair plc and Subsidiaries
Consolidated Statements of Cash Flows

In millions	Financial years ended December 31 2022	2021
Operating activities		
Profit of the group for the financial year	$ 480.9	$ 553.0
Loss from discontinued operations, net of tax	2.3	3.0
Adjustments to reconcile profit of the group to net cash provided by (used for) operating activities		
Equity income of unconsolidated subsidiaries	(1.8)	(0.3)
Depreciation	54.1	51.2
Amortization	52.5	26.3
Gain on sale of businesses	(0.2)	(1.4)
Deferred taxation	(44.8)	(9.0)
Share-based compensation	24.9	29.8
Asset impairment and write-offs	25.6	—
Amortization of bridge financing debt issuance costs	9.0	—
Pension and other post-retirement (income) expense	(12.2)	2.8
Pension and other post-retirement contributions	(8.8)	(9.4)
(Gain) loss on sale of assets	(2.3)	0.7
Changes in assets and liabilities, net of effects of business acquisitions		
Trade debtors	30.4	(142.0)
Stocks	(187.0)	(121.4)
Trade creditors	(56.9)	114.2
Other	(1.4)	116.1
Net cash provided by operating activities of continuing operations	364.3	613.6
Net cash used for operating activities of discontinued operations	(1.0)	(0.4)
Net cash provided by operating activities	363.3	613.2
Investing activities		
Capital expenditures	(85.2)	(60.2)
Proceeds from sale of tangible assets	4.1	3.9
Proceeds from sale of businesses	—	1.4
Acquisitions, net of cash acquired	(1,580.9)	(338.5)
Settlement of net investment hedges	78.9	—
Other	0.3	2.7
Net cash used for investing activities	(1,582.8)	(390.7)
Financing activities		
Net borrowings of revolving long-term debt	124.5	159.4
Proceeds from long-term debt	1,391.3	—
Repayment of long-term debt	(88.3)	(103.8)
Debt issuance costs	(15.8)	(2.3)
Shares issued to employees, net of shares withheld	(2.7)	22.2
Repurchases of ordinary shares	(50.0)	(150.0)
Dividends paid	(138.6)	(133.0)
Receipts (payments) upon the settlement of cross currency swaps	12.3	(14.7)
Net cash provided by (used for) financing activities	1,232.7	(222.2)
Effect of exchange rate changes on cash at bank and in hand	1.2	12.1
Change in cash at bank and in hand	14.4	12.4
Cash at bank and in hand, beginning of financial year	94.5	82.1
Cash at bank and in hand, end of financial year	$ 108.9	$ 94.5

Supplemental disclosure of cash flow information		
Cash paid for interest, net	$ 57.0	$ 29.9
Cash paid for income taxes, net	122.6	71.8

See accompanying notes to consolidated financial statements.

Pentair plc and Subsidiaries
Consolidated Reconciliation of Movements in Shareholders' Funds

	Called-up & fully paid share capital		Other reserves					
In millions	Number	Amount	Share premium account	Capital redemption reserve	Other	Profit and loss account	Accumulated other comprehensive loss (note 6)	Total
Balance - December 31, 2020	166.1	$ 1.7	$ 156.2	$ 0.1	$ 1,524.4	$ 631.2	$ (207.3)	$ 2,106.3
Profit after taxation	—	—	—	—	—	553.0	—	553.0
Other comprehensive loss, net of tax	—	—	—	—	—	—	(6.6)	(6.6)
Dividends declared	—	—	—	—	—	(132.8)	—	(132.8)
Share repurchases	(2.1)	—	—	—	(150.0)	—	—	(150.0)
Exercise of options, net of shares tendered for payment	0.9	—	30.1	—	—	—	—	30.1
Issuance of restricted shares, net of cancellations	0.3	—	—	—	—	—	—	—
Shares surrendered by employees to pay taxes	(0.1)	—	—	—	(7.9)	—	—	(7.9)
Share-based compensation	—	—	—	—	29.8	—	—	29.8
Balance - December 31, 2021	165.1	$ 1.7	$ 186.3	$ 0.1	$ 1,396.3	$ 1,051.4	$ (213.9)	$ 2,421.9
Profit after taxation	—	—	—	—	—	480.9	—	480.9
Other comprehensive loss, net of tax	—	—	—	—	—	—	(25.1)	(25.1)
Dividends declared	—	—	—	—	—	(141.8)	—	(141.8)
Share repurchases	(1.0)	—	—	—	(50.0)	—	—	(50.0)
Exercise of options, net of shares tendered for payment	0.1	—	3.6	—	—	—	—	3.6
Issuance of restricted shares, net of cancellations	0.4	—	—	—	—	—	—	—
Shares surrendered by employees to pay taxes	(0.1)	—	—	—	(6.3)	—	—	(6.3)
Share-based compensation	—	—	—	—	24.9	—	—	24.9
Balance - December 31, 2022	164.5	$ 1.7	$ 189.9	$ 0.1	$ 1,364.9	$ 1,390.5	$ (239.0)	$ 2,708.1

See accompanying notes to consolidated financial statements.

1. Basis of Presentation and Summary of Significant Accounting Policies

Business

Pentair plc and its consolidated subsidiaries ("we," "us," "our," "Pentair," the "Company" or the "Group") is a water industrial manufacturing company comprised of two reporting segments: Consumer Solutions and Industrial & Flow Technologies.

COVID-19

In March 2020, the World Health Organization declared the novel coronavirus 2019 ("COVID-19") a global pandemic. The COVID-19 pandemic has had and may continue to have an unfavorable impact on certain parts of our business. The broader implications of the COVID-19 pandemic on our business, financial condition and results of operations remain uncertain and will depend on certain developments, including the duration and severity of the COVID-19 pandemic, the impact of virus variants, the effectiveness of vaccinations, the COVID-19 pandemic's impact on our customers and suppliers and the range of governmental and community reactions to the pandemic. We may continue to experience reduced customer demand in certain parts of our business or constrained labor and/or supply that could materially and adversely impact our business, financial condition, results of operations, liquidity and cash flows in future periods.

Basis of presentation

Pentair plc is a public limited company, incorporated in Ireland under the Companies Act 2014. The books and accounting records of Pentair plc are maintained at the Company's executive office at Regal House, 70 London Road, Twickenham, London, TW13QS U.K. and are readily accessible at Pentair plc's registered address of Arthur Cox, 10 Earlsfort Terrace, Dublin 2, D02 T380 Ireland. The Company's registration number is 536025.

The directors have elected to prepare the consolidated financial statements in accordance with the Companies Act 2014 which provides that a true and fair view of the assets, liabilities and financial performance may be given by preparing the financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S.") ("U.S. GAAP"), as defined in Section 279 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 Part 6 of the Companies Act 2014 ("the relevant financial reporting framework").

These consolidated financial statements were prepared in accordance with Irish company law, to present to shareholders and file with the Companies Registration Office in Ireland. Accordingly, these consolidated financial statements include disclosures and other presentational and measurement amendments required by Ireland's Companies Act 2014 in addition to those required under U.S. GAAP.

The accompanying consolidated financial statements have been prepared in United States dollars ("USD") and reflect the consolidated operations of Pentair plc, its wholly-owned subsidiaries and entities for which the Company has controlling interest, and where deemed appropriate the presentation format varies from the prescribed formats in Schedule 3 of the Companies Act 2014. Intercompany accounts and transactions have been eliminated. Investments in companies of which we own 20% to 50% of the voting stock or have the ability to exercise significant influence over operating and financial policies of the investee are accounted for using the equity method of accounting and as a result, our share of the earnings or losses of such equity affiliates is included in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

Financial year

Our financial year ends on December 31.

Use of estimates

The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the amounts reported in these consolidated financial statements and accompanying notes, disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates include our accounting for valuation of goodwill and indefinite lived intangible assets, estimated losses on accounts receivable, estimated realizable value on excess and obsolete stocks, percentage of completion revenue recognition, assets acquired and liabilities assumed in acquisitions, estimated selling proceeds from assets held for sale, contingent liabilities, income taxes and pension and other post-retirement benefits. Actual results could differ from our estimates.

Revenue recognition

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those goods or providing services. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

When determining whether the customer has obtained control of the goods or services, we consider any future performance obligations. Generally, there is no post-shipment obligation on product sold other than warranty obligations in the normal and ordinary course of business. In the event significant post-shipment obligations were to exist, revenue recognition would be deferred until Pentair has substantially accomplished what it must do to be entitled to the benefits represented by the revenue.

Performance obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the unit of account for purposes of revenue recognition. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of our contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. For contracts with multiple performance obligations, standalone selling price is generally readily observable.

Our performance obligations are satisfied at a point in time or over time as work progresses. Revenue from goods and services transferred to customers at a point in time accounted for 91.7% and 91.9% of our revenue for the years ended December 31, 2022 and 2021, respectively. Revenue on these contracts is recognized when obligations under the terms of the contract with our customer are satisfied; generally this occurs with the transfer of control upon shipment.

Revenue from products and services transferred to customers over time accounted for 8.3% and 8.1% of our revenue for the years ended December 31, 2022 and 2021, respectively. For the majority of our revenue recognized over time, we use an input measure to determine progress towards completion. Under this method, sales and gross profit are recognized as work is performed generally based on the relationship between the actual costs incurred and the total estimated costs at completion ("the cost-to-cost method") or based on efforts for measuring progress towards completion in situations in which this approach is more representative of the progress on the contract than the cost-to-cost method. Contract costs include labor, material, overhead and, when appropriate, general and administrative expenses. Changes to the original estimates may be required during the life of the contract, and such estimates are reviewed on a regular basis. Sales and gross profit are adjusted using the cumulative catch-up method for revisions in estimated total contract costs. These reviews have not resulted in adjustments that were significant to our results of operations. For performance obligations related to long term contracts, when estimates of total costs to be incurred on a performance obligation exceed total estimates of revenue to be earned, a provision for the entire loss on the performance obligation is recognized in the period the loss is determined.

On December 31, 2022, we had $109.7 million of remaining performance obligations on contracts with an original expected duration of one year or more. We expect to recognize the majority of our remaining performance obligations on these contracts within the next 12 to 18 months.

Sales returns

The right of return may exist explicitly or implicitly with our customers. Our return policy allows for customer returns only upon our authorization. Goods returned must be products we continue to market and must be in salable condition. When the right of return exists, we adjust the transaction price for the estimated effect of returns. We estimate the expected returns based on historical sales levels, the timing and magnitude of historical sales return levels as a percent of sales, type of product, type of customer and a projection of this experience into the future.

Pricing and sales incentives

Our contracts may give customers the option to purchase additional goods or services priced at a discount. Options to acquire additional goods or services at a discount can come in many forms, such as customer programs and incentive offerings including pricing arrangements, promotions and other volume-based incentives.

We reduce the transaction price for certain customer programs and incentive offerings including pricing arrangements, promotions and other volume-based incentives that represent variable consideration. Sales incentives given to our customers are recorded using either the expected value method or most likely amount approach for estimating the amount of consideration to which Pentair shall be entitled. The expected value is the sum of probability-weighted amounts in a range of possible consideration amounts. An expected value is an appropriate estimate of the amount of variable consideration when there are a large number of contracts with similar characteristics. The most likely amount is the single most likely amount in a range of possible consideration amounts (that is, the single most likely outcome of the contract). The most likely amount is an appropriate estimate of the amount of variable consideration if the contract has limited possible outcomes (for example, an entity either achieves a performance bonus or does not).

Pricing is established at or prior to the time of sale with our customers, and we record sales at the agreed-upon net selling price. However, one of our businesses allows customers to apply for a refund of a percentage of the original purchase price if they can demonstrate sales to a qualifying end customer. We use the expected value method to estimate the anticipated refund to be paid based on historical experience and reduce sales for the probable cost of the discount. The cost of these refunds is recorded as a reduction of the transaction price.

Volume-based incentives involve rebates that are negotiated at or prior to the time of sale with the customer and are redeemable only if the customer achieves a specified cumulative level of sales or sales increase. Under these incentive programs, at the time of sale, we determine the most likely amount of the rebate to be paid based on forecasted sales levels. These forecasts are updated at least quarterly for each customer, and the transaction price is reduced for the anticipated cost of the rebate. If the forecasted sales for a customer change, the accrual for rebates is adjusted to reflect the new amount of rebates expected to be earned by the customer.

Shipping and handling costs
Amounts billed to customers for shipping and handling activities after the customer obtains control are treated as a promised service performance obligation and recorded in *Net sales* in the accompanying Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss). Shipping and handling costs incurred by Pentair for the delivery of goods to customers are considered a cost to fulfill the contract and are included in *Cost of goods sold* in the accompanying Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

Contract assets and liabilities
Contract assets consist of unbilled amounts resulting from sales under long-term contracts when the cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer, such as when the customer retains a small portion of the contract price until completion of the contract. We typically receive interim payments on sales under long-term contracts as work progresses, although for some contracts, we may be entitled to receive an advance payment. Contract liabilities consist of advanced payments, billings in excess of costs incurred and deferred revenue.

Contract assets are recorded within *Debtors*, and contract liabilities are recorded within *Creditors (amounts falling due within one year)* in the Consolidated Balance Sheets.

Contract assets and liabilities consisted of the following:

	December 31			
In millions	**2022**	**2021**	**$ Change**	**% Change**
Contract assets	$ 48.4	$ 48.8	$ (0.4)	(0.8)%
Contract liabilities	58.1	39.4	18.7	47.5 %
Net contract assets (liabilities)	$ (9.7)	$ 9.4	$ (19.1)	(203.2)%

The $19.1 million decrease in net contract assets from December 31, 2021 to December 31, 2022 was primarily the result of timing of milestone payments. Approximately 90% of our contract liabilities at December 31, 2021 were recognized in revenue during the twelve months ended December 31, 2022. There were $1.1 million of impairment losses recognized on our net contract liabilities for the twelve months ended December 31, 2022 as a result of our exit of business activity and sales in Russia. There were no impairment losses recognized on our net contract assets for the twelve months ended December 31, 2021.

Practical expedients and exemptions
We generally expense incremental costs of obtaining a contract when incurred because the amortization period would be less than one year. These costs primarily relate to sales commissions and are recorded in *Selling, general and administrative expense* in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

We do not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less. Further, we do not adjust the promised amount of consideration for the effects of a significant financing component if we expect, at contract inception, that the period between when we transfer a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

Revenue by category

We disaggregate our revenue from contracts with customers by segment, geographic location and vertical market, as we believe these best depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. Refer to Note 14 for revenue disaggregated by segment.

Geographic net sales information, based on geographic destination of the sale, was as follows:

	Years ended December 31	
In millions	**2022**	**2021**
U.S.	$ 2,913.2	$ 2,571.2
Western Europe	439.2	460.4
Developing [1]	515.5	487.1
Other Developed [2]	253.9	246.1
Consolidated net sales [3]	$ 4,121.8	$ 3,764.8

[1] Developing includes China, Eastern Europe, Latin America, the Middle East and Southeast Asia.

[2] Other Developed includes Australia, Canada and Japan.

[3] Net sales in Ireland, for each of the years presented, were not material.

Vertical market net sales information was as follows:

	Years ended December 31	
In millions	**2022**	**2021**
Residential	$ 2,613.6	$ 2,437.6
Commercial	809.1	665.9
Industrial	699.1	661.3
Consolidated net sales	$ 4,121.8	$ 3,764.8

Research and development

We conduct research and development ("R&D") activities primarily in our own facilities, which mostly consist of development of new products, product applications and manufacturing processes. We expense R&D costs as incurred. R&D expenditures during 2022 and 2021 were $92.2 million and $85.9 million, respectively.

Cash equivalents

We consider highly liquid investments with original maturities of three months or less at the date of acquisition to be cash equivalents.

Trade debtors and concentration of credit risk

We record an allowance for credit losses, reducing our debtors balance to an amount we estimate is collectible from our customers. Estimates used in determining the allowance for credit losses are based on current trends, aging of trade debtors, periodic credit evaluations of our customers' financial condition, and historical collection experience as well as reasonable and supportable forecasts of future economic conditions. We generally do not require collateral.

The following table summarizes the activity in the allowance for credit losses:

	Years ended December 31	
In millions	**2022**	**2021**
Beginning balance	$ 9.1	$ 8.4
Bad debt expense	3.6	1.1
Acquisitions	0.3	1.0
Write-offs, net of recoveries	(1.4)	(0.9)
Other [1]	(0.8)	(0.5)
Ending balance	$ 10.8	$ 9.1

[1] Other amounts are primarily the effects of changes in currency translations and the impact of allowance for credits.

Stocks

Stocks are stated at the lower of cost or net realizable value with substantially all inventories recorded using the first-in, first-out ("FIFO") cost method.

Tangible assets

Tangible assets are stated at historical cost. We compute depreciation by the straight-line method based on the following estimated useful lives:

	Years
Land improvements	5 to 20
Buildings and leasehold improvements	5 to 50
Machinery and equipment	3 to 15
Capitalized software	3 to 10

Significant improvements that add to productive capacity or extend the lives of properties are capitalized. Costs for repairs and maintenance are charged to expense as incurred. When property is retired or otherwise disposed of, the recorded cost of the assets and their related accumulated depreciation are removed from the Consolidated Balance Sheets and any related gains or losses are included in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

The following table presents geographic *Tangible assets* by region as of December 31:

In millions	2022	2021
U.S.	$ 213.3	$ 198.7
Western Europe	74.4	71.5
Developing [(1)]	46.8	29.5
Other Developed [(2)]	10.0	10.3
Consolidated [(3)]	$ 344.5	$ 310.0

(1) Developing includes China, Eastern Europe, Latin America, the Middle East and Southeast Asia.

(2) Other Developed includes Australia, Canada and Japan.

(3) Tangible assets in Ireland, for each of the years presented, were not material.

We review the recoverability of long-lived assets to be held and used, such as tangible assets, when events or changes in circumstances occur that indicate the carrying value of the asset or asset group may not be recoverable. The assessment of possible impairment is based on our ability to recover the carrying value of the asset or asset group from the expected future pre-tax cash flows (undiscounted and without interest charges) of the related operations. If these cash flows are less than the carrying value of such asset or asset group, an impairment loss is recognized for the difference between estimated fair value and carrying value. Impairment losses on long-lived assets held for sale are determined in a similar manner, except that fair values are reduced for the cost to dispose of the assets.

The measurement of impairment requires us to estimate future cash flows and the fair value of long-lived assets. We recorded $9.2 million of long-lived asset impairment charges in 2022 comprised of long-lived assets which were primarily written off as a result of restructuring actions and certain business exits announced in the fourth quarter of 2022. No material long-lived asset impairment charges were recorded in 2021.

Right-of-use assets

These operating lease right-of-use ("ROU") assets are included in *Right-of-use assets* on Consolidated Balance Sheets, and represent our right to use the underlying asset for the lease term. Our obligation to make lease payments arising from the lease are included in *Creditors (amounts falling due within one year)* and *Creditors (amounts falling due after more than one year)* on the Consolidated Balance Sheets. Lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As we cannot readily determine the rate implicit in the lease, we use our incremental borrowing rate, determined by country of lease origin, based on the anticipated lease term at the commencement date in determining the present value of lease payments. The ROU asset also excludes any accrued lease payments and unamortized lease incentives. The ROU assets are subsequently measured at cost less accumulated amortization and impairment losses. The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability, and by reducing the carrying amount to reflect the lease payments made.

For measurement and classification of lease agreements, we group lease and non-lease components into a single lease component for all underlying asset classes. Accordingly, all costs associated with a lease contract are accounted for as one lease cost.

Goodwill and identifiable intangible assets

True and fair override

Irish company law requires goodwill and indefinite-lived intangible assets to be amortized. However, Pentair does not believe this gives a true and fair view because not all goodwill and intangible assets decline in value. In addition, since goodwill and indefinite-lived intangible assets that do decline in value rarely do so on a straight-line basis, straight-line amortization of goodwill and indefinite-lived intangible assets over an arbitrary period do not reflect the economic reality. Therefore, in order to present a true and fair view of the economic reality under U.S. GAAP, goodwill and certain other intangible assets are considered indefinite-lived and are not amortized. If goodwill and indefinite-lived intangible assets were amortized, the impact on the financial statements would be an additional expense in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss) and a corresponding decrease to the carrying value of the asset.

Goodwill

Goodwill represents the excess of the cost of acquired businesses over the net of the fair value of identifiable tangible net assets and identifiable intangible assets purchased and liabilities assumed.

We test our goodwill for impairment at least annually during the fourth quarter or more frequently if events or changes in circumstances indicate that the asset might be impaired. We perform our annual or interim goodwill impairment test by comparing the fair value of the relevant reporting unit with its carrying amount. We would recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized would not exceed the total amount of goodwill allocated to that reporting unit.

We have the option to perform a qualitative assessment to determine whether it is necessary to perform the quantitative goodwill impairment test. However, we may elect to perform the quantitative goodwill impairment test even if no indications of a potential impairment exist.

As a result of the qualitative assessment performed during 2022 and 2021, it was determined that it was more likely than not that the fair value of the reporting units exceeded their respective carrying values. Factors considered in the analysis included the 2020 discounted cash flow fair value assessment of the reporting units and the calculated excess fair value over carrying amount, financial performance, forecasts and trends, market capitalization, regulatory and environmental issues, macro-economic conditions, industry and market considerations, raw material costs and management stability. We also consider the extent to which each of the adverse events and circumstances identified affect the comparison of the respective reporting unit's fair value with its carrying amount. We place more weight on the events and circumstances that most affect the respective reporting unit's fair value or the carrying amount of its net assets. We consider positive and mitigating events and circumstances that may affect its determination of whether it is more likely than not that the fair value exceeds the carrying amount. The non-recurring fair value measurement is a "Level 3" measurement under the fair value hierarchy described in Note 9.

Identifiable intangible assets

Our primary identifiable intangible assets include: customer relationships, trade names, proprietary technology and patents. Identifiable intangibles with finite lives are amortized and those identifiable intangibles with indefinite lives are not amortized. Identifiable intangible assets that are subject to amortization are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Identifiable intangible assets not subject to amortization are tested for impairment annually or more frequently if events warrant. We complete our annual impairment test the first day of the fourth quarter each year for those identifiable assets not subject to amortization.

We compute amortization by the straight-line method based on the following estimated useful lives:

	Years
Customer relationships	5 to 25
Trade names	5 to 10
Proprietary technology	5 to 20
Patents	5 to 20

The impairment test for trade names consists of a comparison of the fair value of the trade name with its carrying value. Fair value is measured using the relief-from-royalty method. This method assumes the trade name has value to the extent that the owner is relieved of the obligation to pay royalties for the benefits received from them. This method requires us to estimate the future revenue for the related brands, the appropriate royalty rate and the weighted average cost of capital. The non-recurring fair value measurement is a "Level 3" measurement under the fair value hierarchy described in Note 9.

An impairment charge of $2.7 million was recorded in 2022 related to the write-off of a proprietary technology intangible asset as a result of a business exit announced in the fourth quarter of 2022. The impairment charge was recorded in *Selling, general and administrative* in our Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss). No additional impairment charges were recognized for identifiable intangible assets in 2022.

No impairment charges were recorded for identifiable intangible assets in 2021.

Income taxes

We use the asset and liability approach to account for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of differences between the carrying amounts of assets and liabilities and their respective tax bases using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period when the change is enacted. We maintain valuation allowances unless it is more likely than not that all or a portion of the deferred tax assets will be realized. Changes in valuation allowances from period to period are included in our tax provision in the period of change. We recognize the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

Pension and other post-retirement plans

We sponsor U.S. and non-U.S. defined-benefit pension and other post-retirement plans. The pension and other post-retirement benefit costs for group-sponsored benefit plans are determined from actuarial assumptions and methodologies, including discount rates and expected returns on plan assets. These assumptions are updated annually and are disclosed in Note 11.

We recognize changes in the fair value of plan assets and net actuarial gains or losses for pension and other post-retirement benefits annually in the fourth quarter each year ("mark-to-market adjustment") and, if applicable, in any quarter in which an interim re-measurement is triggered. Net actuarial gains and losses occur when the actual experience differs from any of the various assumptions used to value our pension and other post-retirement plans or when assumptions change, as they may each year. The remaining components of pension expense, including service and interest costs and estimated return on plan assets, are recorded on a quarterly basis. The service costs are recorded within *Operating income* and the interest costs, expected return on plan assets and net actuarial gain/loss components of net periodic pension and other post-retirement benefit costs are recorded within *Other (income) expense* in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

Insurance subsidiary

A portion of our property and casualty insurance program is insured through our regulated wholly-owned captive insurance subsidiary, Penwald Insurance Company ("Penwald"). Reserves for policy claims are established based on actuarial projections of ultimate losses. As of December 31, 2022 and 2021, reserves for policy claims included in *Provisions for liabilities* were $65.1 million and $55.6 million, respectively.

Share-based compensation

We account for share-based compensation awards on a fair value basis. The estimated grant date fair value of each option award is recognized in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss) on an accelerated basis over the requisite service period (generally the vesting period). The estimated fair value of each option award is calculated using the Black-Scholes option-pricing model. From time to time, we have elected to modify the terms of the original grant. These modified grants are accounted for as a new award and measured using the fair value method, resulting in the inclusion of additional compensation expense in our Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

Restricted share awards and units ("RSUs") are recorded as compensation cost over the requisite service periods based on the market value on the date of grant.

Performance share units ("PSUs") are stock awards where the ultimate number of shares issued will be contingent on the Company's performance against certain performance goals. The Compensation Committee has the ability to adjust performance goals or modify the manner of measuring or evaluating a performance goal using its discretion. The fair value of each PSU is based on the market value on the date of grant. We recognize expense related to the estimated vesting of our PSUs granted. The estimated vesting of the PSUs is based on the probability of achieving certain performance metrics over the specified performance period.

Earnings per ordinary share

We present two calculations of earnings per ordinary share ("EPS"). Basic EPS equals profit divided by the weighted-average number of ordinary shares outstanding during the period. Diluted EPS is computed by dividing profit by the sum of weighted-average number of ordinary shares outstanding plus dilutive effects of ordinary share equivalents.

Debt

We record our senior notes and term loans at the liability stated in the underlying agreement net of premiums, discounts and debt issuance costs. Revolver and commercial paper issuances are recorded at the amount outstanding. Interest expense is calculated based upon the credit terms of the underlying agreement and recorded in *Interest payable and similar charges* in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss).

Derivative financial instruments

We recognize all derivatives, including those embedded in other contracts, as either assets or liabilities at fair value in our Consolidated Balance Sheets. If the derivative is designated and is effective as a cash-flow hedge, the effective portion of changes in the fair value of the derivative is recorded in *Accumulated other comprehensive profit/(loss)* ("AOCI") as a separate component of shareholders' funds in the Consolidated Balance Sheets and is recognized in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss) when the hedged item affects earnings. If the underlying hedged transaction ceases to exist or if the hedge becomes ineffective, all changes in fair value of the related derivatives that have not been settled are recognized in current earnings. For a derivative that is not designated as or does not qualify as a hedge, changes in fair value are reported in earnings immediately.

Gains and losses on net investment hedges are included in AOCI as a separate component of shareholders' funds in the Consolidated Balance Sheets.

We use derivative instruments for the purpose of hedging interest rate and currency exposures, which exist as part of ongoing business operations. We do not hold or issue derivative financial instruments for trading or speculative purposes. Our policy is not to enter into contracts with terms that cannot be designated as normal purchases or sales. From time to time, we may enter into short duration foreign currency contracts to hedge foreign currency risks.

Foreign currency translation

The financial statements of the Company's non-U.S. dollar functional currency international subsidiaries are measured using the local currency as the functional currency. Assets and liabilities of these subsidiaries are translated at the rates of exchange at the balance sheet date. Income (loss) and expense items are translated at average monthly rates of exchange. The resultant translation adjustments are included in AOCI, a component of shareholders' funds.

2. Acquisitions

On July 28, 2022, as part of our Consumer Solutions reporting segment, we acquired the issued and outstanding equity securities of certain subsidiaries of Welbilt, Inc. ("Welbilt") and certain other assets, rights, and properties, and assumed certain liabilities, comprising Welbilt's Manitowoc Ice business ("Manitowoc Ice"), for approximately $1.6 billion in cash.

Manitowoc Ice is a designer, manufacturer and distributor of commercial ice machines. The acquisition of Manitowoc Ice allows us to enhance and deliver our total water management offerings to an expanded network of channel partners and customers.

The purchase price has been preliminarily allocated based on the estimated fair value of assets acquired and liabilities assumed at the date of the Manitowoc Ice acquisition. The preliminary purchase price allocation is subject to further refinement and may require significant adjustments to arrive at the final purchase price allocation. These changes will primarily relate to income tax-related items. We expect the final purchase price allocation to be completed by the third quarter of 2023. There can be no assurance that such finalization will not result in material changes from the preliminary purchase price allocation.

The following table summarizes our preliminary estimates of the fair values of the assets acquired and liabilities assumed in the Manitowoc Ice acquisition:

In millions		
Cash	$	33.8
Trade debtors		36.7
Stocks		66.5
Other current assets		3.9
Tangible Assets		21.6
Identifiable intangible assets		728.3
Goodwill		790.5
Other assets		1.8
Creditors falling due within one year		(66.5)
Total creditors falling due after more than one year		(3.3)
Purchase price	$	1,613.3

The excess of purchase price over tangible net assets and identified intangible assets acquired has been preliminarily allocated to goodwill in the amount of $790.5 million, all of which is expected to be deductible for income tax purposes. Goodwill recognized from the Manitowoc Ice acquisition primarily reflects the future economic benefit resulting from synergies of our combined operations.

Identifiable intangible assets acquired as part of the Manitowoc Ice acquisition include $78.4 million of indefinite-lived trade name intangible assets, $588.4 million of definite-lived customer relationships with a weighted-average estimated useful life of 20 years, $47.1 million of definite-lived proprietary technology intangible assets with a weighted-average estimated useful life of 10 years and $14.4 million of other definite-lived intangible assets with a weighted-average estimated useful life of four months. The fair values of trade names and proprietary technology acquired in the acquisition were determined using a relief-from-royalty method, and customer relationships and other definite-lived intangible assets acquired were determined using a multi-period excess earnings method. These methods utilize unobservable inputs that are significant to these fair value measurements and thus classified as Level 3 of the fair value hierarchy described in Note 9.

For the year ended December 31, 2022, non-recurring expense related to the fair value adjustment to acquisition-date inventory of $5.8 million, transaction-related charges of $19.9 million, and acquisition-related bridge financing costs of $9.0 million are reflected in *Cost of goods sold*, *Selling, general and administrative and Interest payable and similar charges*, respectively, in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss). Manitowoc Ice's net sales and operating profit for the period from the acquisition date to December 31, 2022 were $156.3 million and $12.2 million, respectively. Manitowoc's operating income includes $28.6 million of identifiable intangible asset amortization expense and $5.8 million of amortization of inventory fair market value step-up.

The following table presents unaudited pro forma financial information as if the Manitowoc Ice acquisition had occurred on January 1, 2021:

	Financial years ended December 31			
In millions, except per share data		**2022**		**2021**
Pro forma net sales	$	4,328.6	$	4,072.1
Pro forma profit from continuing operations		486.3		523.3
Pro forma earnings per ordinary share - continuing operations				
Basic	$	2.95	$	3.16
Diluted		2.94		3.12

The unaudited pro forma profit from continuing operations includes Manitowoc Ice's identifiable intangible asset amortization expense of $34.1 million and $48.5 million for the years ended December 31, 2022 and 2021, respectively. The unaudited pro forma profit from continuing operations for the year ended December 31, 2022 excludes the impact of $34.7 million of transaction-related charges, acquisition-related bridge financing costs and non-recurring expense related to the fair value adjustment to acquisition-date inventory. The year ended December 31, 2021 was adjusted to include transaction-related charges and non-recurring expense related to the fair value adjustment to acquisition-date inventory.

The pro forma condensed consolidated financial information has been prepared for comparative purposes only and includes certain adjustments, as noted above. The adjustments are estimates based on currently available information and actual amounts may differ materially from these estimates. They do not reflect the effect of costs or synergies that would have been expected to result from the integration of the Manitowoc Ice acquisition. The pro forma information does not purport to be indicative of the results of operations that actually would have resulted had the Manitowoc Ice acquisition occurred on January 1, 2021.

In October 2021, as part of both of our Consumer Solutions and Industrial & Flow Technologies reporting segments, we completed the acquisition of Pleatco Holdings, LLC and related entities for $256.9 million in cash, net of cash acquired and working capital true-ups. The excess of purchase price over tangible net assets acquired has been allocated to goodwill in the amount of $140.6 million, $136.4 million of which is expected to be deductible for income tax purposes. Identifiable intangible assets acquired consisted of $97.9 million of definite-lived customer relationships with an estimated useful life of 17 years. The pro forma impact of this acquisition is not material.

In May 2021, as part of our Consumer Solutions reporting segment, we completed the acquisition of Ken's Beverage, Inc. for $82.2 million in cash, net of cash acquired and working capital true-ups. The excess of purchase price over tangible net assets acquired has been allocated to goodwill in the amount of $28.3 million, all of which is expected to be deductible for income tax purposes. Identifiable intangible assets acquired consisted of $38.0 million of definite-lived customer relationships with an estimated useful life of 22 years. The pro forma impact of this acquisition is not material.

3. Earnings Per Share

Basic and diluted earnings per share were calculated as follows:

	Financial years ended December 31	
In millions, except per share data	**2022**	**2021**
Profit of the group for the financial year	$ 480.9	$ 553.0
Profit from continuing operations of the group for the financial year	$ 483.2	$ 556.0
Weighted average ordinary shares outstanding		
Basic	164.8	165.8
Dilutive impact of stock options and restricted stock awards	0.8	1.7
Diluted	165.6	167.5
Earnings (loss) per ordinary share		
Basic		
Continuing operations	$ 2.93	$ 3.36
Discontinued operations	(0.01)	(0.02)
Basic earnings per ordinary share	$ 2.92	$ 3.34
Diluted		
Continuing operations	$ 2.92	$ 3.32
Discontinued operations	(0.02)	(0.02)
Diluted earnings per ordinary share	$ 2.90	$ 3.30
Anti-dilutive stock options excluded from the calculation of diluted earnings per share	0.9	0.1

4. Restructuring and Transformation Program

In 2021, we launched and committed resources to a program designed to accelerate growth and drive margin expansion through transformation of our business model to drive operational excellence, reduce complexity and streamline our processes (the "Transformation Program"). The Transformation Program is structured in multiple phases and is expected to empower us to work more efficiently and optimize our business to better serve our customers while meeting our financial objectives.

During 2022, we initiated and continued execution of certain business restructuring initiatives aimed at reducing our fixed cost structure and realigning our business, including the announcement of certain business exits within the residential business of our Consumer Solutions segment. In addition, we executed certain initiatives in 2022 and 2021 associated with the Transformation Program. Initiatives during the years ended December 31, 2022 and 2021 included a reduction in hourly and salaried headcount of approximately 625 employees and 75 employees, respectively.

Restructuring and transformation-related costs included in *Cost of goods sold* and *Selling, general and administrative* expenses in the Profit and Loss Account and Statement of Comprehensive Profit (Loss) included the following:

In millions	Financial years ended December 31 2022	2021
Restructuring Initiatives		
Severance and related costs	$ 17.7	$ 7.0
Asset impairment and write-offs [1]	25.6	—
Other restructuring costs [2]	13.0	0.4
Total restructuring costs	56.3	7.4
Transformation Program		
Severance and related costs	3.4	—
Other transformation costs [3]	23.8	11.7
Total transformation costs	27.2	11.7
Total restructuring and transformation costs	$ 83.5	$ 19.1

(1) Asset impairment and write-offs consist of inventory, long-lived assets and an identifiable intangible asset, which were impaired as a result of restructuring actions and certain business exits announced in the fourth quarter of 2022.

(2) Other restructuring costs primarily consist of certain accruals and various contract termination costs associated with business exits.

(3) Other transformation costs primarily consist of professional services and project management related costs.

Restructuring and transformation costs by reportable segment were as follows:

In millions	Financial years ended December 31 2022	2021
Consumer Solutions	$ 55.4	$ 0.9
Industrial & Flow Technologies	2.2	0.9
Other	25.9	17.3
Consolidated	$ 83.5	$ 19.1

Activity related to accrued severance and related costs recorded in *Provision for liabilitie*s in the Consolidated Balance Sheets is summarized as follows:

In millions	Financial years ended December 31 2022	2021
Beginning balance	$ 10.7	$ 15.2
Costs incurred	21.1	7.0
Cash payments and other	(8.6)	(11.5)
Ending balance	$ 23.2	$ 10.7

5. Intangible Assets

The changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2021 by reportable segment were as follows:

In millions	December 31, 2021	Acquisitions	Purchase accounting adjustments	Foreign currency translation	December 31, 2022
Consumer Solutions	$ 1,722.5	$ 790.5	$ 1.4	$ (9.4)	$ 2,505.0
Industrial & Flow Technologies	782.0	—	1.0	(35.4)	747.6
Total goodwill	$ 2,504.5	$ 790.5	$ 2.4	$ (44.8)	$ 3,252.6

Identifiable intangible assets consisted of the following at December 31:

	2022			2021		
In millions	Cost	Accumulated amortization	Net	Cost	Accumulated amortization	Net
Definite-life intangibles						
Customer relationships	$ 1,100.9	$ (308.9)	$ 792.0	$ 558.8	$ (320.1)	$ 238.7
Proprietary technology and patents	89.3	(35.6)	53.7	46.3	(32.1)	14.2
Other	14.4	(14.4)	—	—	—	—
Total finite-life intangibles	1,204.6	(358.9)	845.7	605.1	(352.2)	252.9
Indefinite-life intangibles						
Trade names	248.9	—	248.9	175.1	—	175.1
Total intangibles	$ 1,453.5	$ (358.9)	$ 1,094.6	$ 780.2	$ (352.2)	$ 428.0

Identifiable intangible asset amortization expense in 2022 and 2021 was $52.5 million and $26.3 million, respectively.

An impairment charge of $2.7 million was recorded in 2022 related to the write-off of a proprietary technology intangible asset as a result of a business exit announced in the fourth quarter of 2022. No impairment charge was recorded for identifiable intangible assets in 2021.

Estimated future amortization expense for identifiable intangible assets during the next five years is as follows:

In millions	2023	2024	2025	2026	2027
Estimated amortization expense	$ 54.6	$ 54.1	$ 54.1	$ 52.8	$ 51.5

6. Accumulated Other Comprehensive Loss

Components of *Accumulated Other Comprehensive Loss* consist of the following:

	December 31	
In millions	2022	2021
Cumulative translation adjustments	$ (280.5)	$ (224.1)
Market value of derivative financial instruments, net of tax	41.5	10.2
Accumulated other comprehensive loss	$ (239.0)	$ (213.9)

7. Stocks

Stocks consisted of the following at December 31:

	December 31	
In millions	2022	2021
Raw materials and supplies	$ 404.1	$ 290.3
Work-in-process	95.6	77.4
Finished goods	290.3	195.2
Total stocks	$ 790.0	$ 562.9

Aggregate reductions in the carrying value of stocks that were still on hand at December 31, 2022 and 2021, that were deemed to be excess, obsolete, slow-moving or in excess of market value, were $60.3 million and $45.7 million, respectively.

8. Debt

Debt and the average interest rates on debt outstanding were as follows:

In millions	Average interest rate at December 31, 2022	Maturity year	December 31 2022	December 31 2021
Revolving credit facility (Senior Credit Facility)	6.053%	2026	$ 320.0	$ 195.0
Term Loan Facility	5.463%	2023 - 2027	1,000.0	—
Term loans (Senior Credit Facility)	5.861%	2024	200.0	200.0
Senior notes - fixed rate [1]	3.150%	2022	—	88.3
Senior notes - fixed rate [1]	4.650%	2025	19.3	19.3
Senior notes - fixed rate [1]	4.500%	2029	400.0	400.0
Senior notes - fixed rate [1]	5.900%	2032	400.0	—
Unamortized issuance costs and discounts	N/A	N/A	(22.0)	(8.5)
Total debt			2,317.3	894.1
Less: Current maturities and short-term borrowings (note 19)			(12.5)	(88.3)
Long-term debt (note 20)			$ 2,304.8	$ 805.8

[1] Senior notes are guaranteed as to payment by Pentair plc.

Pentair, Pentair Finance S.à r.l ("PFSA") and Pentair, Inc. are parties to a credit agreement (the "Senior Credit Facility"), with Pentair as guarantor and PFSA and Pentair, Inc. as borrowers, which was amended and restated in December 2021 and further amended in December 2022, providing for a $900.0 million senior unsecured revolving credit facility and a $200.0 million senior unsecured term loan facility. The revolving credit facility has a maturity date of December 16, 2026 and the term loan facility has a maturity date of December 16, 2024. Borrowings under the Senior Credit Facility bear interest at a rate equal to an alternate base rate, adjusted term secured overnight financing rate, adjusted euro interbank offered rate, adjusted daily simple secured overnight financing rate or central bank rate, plus, in each case, an applicable margin. The applicable margin is based on, at PFSA's election, Pentair's leverage level or PFSA's public credit rating.

As of December 31, 2022, total availability under the Senior Credit Facility was $580.0 million. In addition, PFSA has the option to request to increase the revolving credit facility and/or to enter into one or more additional tranches of term loans in an aggregate amount of up to $300.0 million, subject to customary conditions, including the commitment of the participating lenders.

In March 2022, in contemplation of the acquisition of Manitowoc Ice, Pentair and PFSA entered into a Loan Agreement among PFSA, as borrower, Pentair, as guarantor, and the lenders and agents party thereto, providing for a $600.0 million senior unsecured term loan facility (the "Term Loan Facility"). In June 2022, the Term Loan Facility was amended to increase the facility by $400.0 million to an aggregate principal amount of $1.0 billion. The Term Loan Facility has a maturity date of July 28, 2027, with required quarterly installment payments of $6.3 million beginning on the last day of the third quarter of 2023 and increasing to $12.5 million beginning with the last day of the third quarter of 2024. The Term Loan Facility bears interest at a rate equal to an alternate base rate, adjusted term secured overnight financing rate, or adjusted daily simple secured overnight financing rate, plus, in each case, an applicable margin. The applicable margin is based on, at PFSA's election, Pentair's leverage level or PFSA's public credit rating.

In July 2022, in contemplation of the acquisition of Manitowoc Ice, Pentair, as guarantor, and PFSA, as issuer, completed a public offering of $400.0 million aggregate principal amount of 5.900% Senior Notes due 2032 ("2032 Senior Notes").

We used the net proceeds from the Term Loan Facility and the issuance of the 2032 Senior Notes to finance a portion of the Manitowoc Ice acquisition purchase price and to pay related fees and expenses.

Our debt agreements contain various financial covenants, but the most restrictive covenants are contained in the Senior Credit Facility and the Term Loan Facility. The Senior Credit Facility and the Term Loan Facility contain covenants requiring us not to permit (i) the ratio of our consolidated debt (net of our consolidated unrestricted cash and cash equivalents in excess of $5.0 million but not to exceed $250.0 million) to our consolidated net income (excluding, among other things, non-cash gains and losses) before interest, taxes, depreciation, amortization and non-cash share-based compensation expense ("EBITDA") on the last day of any period of four consecutive fiscal quarters (each, a "testing period") to exceed 3.75 to 1.00 (or, at PFSA's election and subject to certain conditions, 4.25 to 1.00 for four testing periods in connection with certain material acquisitions) (the "Leverage Ratio") and (ii) the ratio of our EBITDA to our consolidated interest expense, for the same period to be less than 3.00 to 1.00 as of the end of each fiscal quarter. For purposes of the Leverage Ratio, the Senior Credit Facility and the Term Loan Facility provide for the calculation of EBITDA giving pro forma effect to certain acquisitions, divestitures and liquidations during the period to which such calculation relates.

In addition to the Senior Credit Facility and the Term Loan Facility, we have various other credit facilities with an aggregate availability of $21.0 million, of which there were no outstanding borrowings at December 31, 2022. Borrowings under these credit facilities bear interest at variable rates.

Debt outstanding, excluding unamortized issuance costs and discounts, at December 31, 2022 matures on a calendar year basis as follows:

In millions	2023	2024	2025	2026	2027	Thereafter	Total
Contractual debt obligation maturities	$ 12.5	$ 237.5	$ 69.3	$ 370.0	$ 850.0	$ 800.0	$ 2,339.3

9. Derivatives and Financial Instruments

Derivative financial instruments

We are exposed to market risk related to changes in foreign currency exchange rates. To manage the volatility related to this exposure, we periodically enter into a variety of derivative financial instruments. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency rates. The derivative contracts contain credit risk to the extent that our bank counterparties may be unable to meet the terms of the agreements. The amount of such credit risk is generally limited to the unrealized gains, if any, in such contracts. Such risk is minimized by limiting those counterparties to major financial institutions of high credit quality.

Foreign currency contracts

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. We manage our economic and transaction exposure to certain market-based risks through the use of foreign currency derivative financial instruments. Our objective in holding these derivatives is to reduce the volatility of net earnings and cash flows associated with changes in foreign currency exchange rates. The majority of our foreign currency contracts have an original maturity date of less than one year.

At December 31, 2022 and 2021, we had outstanding foreign currency derivative contracts with gross notional U.S. dollar equivalent amounts of $9.4 million and $14.7 million, respectively. The impact of these contracts on the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss) was not material for any period presented.

Cross currency swaps

At December 31, 2022 and 2021, we had outstanding cross currency swap agreements with a combined notional amount of $746.3 million and $794.4 million, respectively. The agreements are accounted for as either cash flow hedges, to hedge foreign currency fluctuations on certain intercompany debt, or as net investment hedges to manage our exposure to fluctuations in the Euro-U.S. Dollar exchange rate. As of December 31, 2022 and 2021, we had a deferred foreign currency loss of $40.3 million and a deferred foreign currency gain of $7.3 million, respectively, recorded in *Accumulated other comprehensive loss* associated with our cross currency swap activity. The periodic interest settlements related to our cross currency swap agreements are classified as operating activities. The cash flows that relate to principal balances are classified as financing activities for the cash flow hedges on intercompany debt and investing activities for the net investment hedges.

In October 2022, we entered into transactions to early terminate and cash settle €700 million of our cross currency swap agreements due to favorable market conditions. The termination of the cross currency swap agreements resulted in net cash receipts of $84.3 million, of which $2.1 million, $70.1 million and $12.1 million are included within operating activities, investing activities and financing activities, respectively, on the Consolidated Statements of Cash Flows. Subsequent to the termination, we entered into new cross currency swap agreements with euro notional amounts matching the original swap agreements.

In June 2022, we terminated two of our cross currency swap agreements, resulting in total net cash received of $9.0 million, of which $8.8 million is included within investing activities and $0.2 million is included within financing activities on the Consolidated Statements of Cash Flows. We entered into new cross currency swaps with a combined notional amount of $320.0 million to replace the terminated cross currency swap agreements.

In January 2021, one of our cross currency swap agreements, which was accounted for as a cash flow hedge, matured, resulting in a net cash payment of $14.7 million. The net cash payment is included within financing activities on the Consolidated Statements of Cash Flows.

Fair value measurements

Fair value is defined 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. Assets and liabilities measured at fair value are classified using the following hierarchy, which is based upon the transparency of inputs to the valuation as of the measurement date:

Level 1: Valuation is based on observable inputs such as quoted market prices (unadjusted) for identical assets or liabilities in active markets.

Level 2: Valuation is based on inputs such as quoted market prices for similar assets or liabilities in active markets or other inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3: Valuation is based upon other unobservable inputs that are significant to the fair value measurement.

In making fair value measurements, observable market data must be used when available. 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.

Fair value of financial instruments

The following methods were used to estimate the fair values of each class of financial instrument:

- *short-term financial instruments (cash and cash equivalents, accounts and notes receivable, accounts payable and variable-rate debt)* — recorded amount approximates fair value because of the short maturity period;
- *long-term fixed-rate debt, including current maturities* — fair value is based on market quotes available for issuance of debt with similar terms, which are inputs that are classified as Level 2 in the valuation hierarchy defined above;
- *foreign currency contract agreements* — fair values are determined through the use of models that consider various assumptions, including time value, yield curves, as well as other relevant economic measures, which are inputs that are classified as Level 2 in the valuation hierarchy defined above; and
- *deferred compensation plan assets (mutual funds, common/collective trusts and cash equivalents for payment of certain non-qualified benefits for retired, terminated and active employees)* — fair value of mutual funds and cash equivalents are based on quoted market prices in active markets that are classified as Level 1 in the valuation hierarchy defined above; fair value of common/collective trusts are classified as Level 2 in the valuation hierarchy defined above.

The recorded amounts and estimated fair values of total debt, excluding unamortized issuance costs and discounts, at December 31 were as follows:

	2022		2021	
In millions	**Recorded Amount**	**Fair Value**	**Recorded Amount**	**Fair Value**
Variable rate debt	$ 1,520.0	$ 1,520.0	$ 395.0	$ 395.0
Fixed rate debt	819.3	789.3	507.6	564.3
Total debt	$ 2,339.3	$ 2,309.3	$ 902.6	$ 959.3

Financial assets and liabilities measured at fair value on a recurring and nonrecurring basis were as follows:

Recurring fair value measurements	**December 31, 2022**			
In millions	**Level 1**	**Level 2**	**Level 3**	**Total**
Foreign currency contract liabilities (note 20)	$ —	$ (52.2)	$ —	$ (52.2)
Deferred compensation plan assets - Rabbi Trust (note 21)	10.5	11.2	—	21.7
Total recurring fair value measurements	$ 10.5	$ (41.0)	$ —	$ (30.5)

Recurring fair value measurements	**December 31, 2021**			
In millions	**Level 1**	**Level 2**	**Level 3**	**Total**
Foreign currency contract assets (note 21)	$ —	$ 7.2	$ —	$ 7.2
Foreign currency contract liabilities (note 20)	—	(9.5)	—	(9.5)
Deferred compensation plan assets - Rabbi Trust (note 21)	13.6	12.0	—	25.6
Total recurring fair value measurements	$ 13.6	$ 9.7	$ —	$ 23.3

10. Taxation

Profit from continuing operations before taxation consisted of the following:

	Financial years ended December 31	
In millions	**2022**	**2021**
Federal [1]	$ (10.1)	$ (11.2)
International [2]	560.7	638.0
Profit from continuing operations before taxation	$ 550.6	$ 626.8

[1] "Federal" reflects United Kingdom ("U.K.") income (loss) from continuing operations before income taxes.
[2] "International" reflects non-U.K. profit from continuing operations before income taxes.

Taxation from continuing operations consisted of the following:

	Financial years ended December 31	
In millions	**2022**	**2021**
Currently payable (receivable)		
Federal [1]	$ —	$ —
International [2]	112.2	79.8
Total current taxation	112.2	79.8
Deferred		
International [2]	(44.8)	(9.0)
Total deferred taxation	(44.8)	(9.0)
Total taxation	$ 67.4	$ 70.8

[1] "Federal" represents U.K. taxes.
[2] "International" represents non-U.K. taxes.

Reconciliations of the federal taxation at the statutory rate to the Group's effective tax rate on ordinary activities were as follows:

	Financial years ended December 31	
Percentages	**2022**	**2021**
U.K. federal statutory income tax rate	19.0 %	19.0 %
Tax effect of international operations [1]	(7.6)	(5.1)
Change in valuation allowances	1.0	(0.2)
Excess tax benefits on stock-based compensation	(0.2)	(1.1)
Unrecognized tax benefits	—	(1.3)
Effective tax rate	12.2 %	11.3 %

[1] The tax effect of international operations consists of non-U.K. jurisdictions.

Reconciliations of the Group's beginning and ending gross unrecognized tax benefits were as follows:

	Financial years ended December 31	
In millions	**2022**	**2021**
Beginning balance	$ 37.3	$ 46.3
Gross increases for tax positions in prior periods	3.6	2.5
Gross decreases for tax positions in prior periods	(0.9)	(0.7)
Gross increases based on tax positions related to the current year	0.2	0.2
Gross decreases related to settlements with taxing authorities	(0.6)	(0.9)
Reductions due to statute expiration	—	(10.1)
Ending balance	$ 39.6	$ 37.3

We record gross unrecognized tax benefits in *Creditors (amounts falling due within one year) and Creditors (amounts falling due after more than one year)* in the Consolidated Balance Sheets. Included in the $39.6 million of total gross unrecognized tax benefits as of December 31, 2022 was $38.1 million of tax benefits that, if recognized, would impact the effective tax rate. It is reasonably possible that the gross unrecognized tax benefits as of December 31, 2022 may decrease by a range of zero to $4.5 million during 2023, primarily as a result of the resolution of Germany and U.S. state examinations.

Based on the outcome of these examinations, or as a result of the expiration of statutes of limitations for specific jurisdictions, it is reasonably possible that certain unrecognized tax benefits for tax positions taken on previously filed tax returns will materially change from those recorded as liabilities in our financial statements. A number of tax periods from 2009 to present are under audit by tax authorities in various jurisdictions, including Germany, India and various U.S states. We anticipate that several of these audits may be concluded in the foreseeable future.

We record penalties and interest related to unrecognized tax benefits in *Taxation* and *Interest payable and related expenses*, respectively, in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss). At December 31, 2022 and 2021, we have liabilities of $0.6 million and $0.2 million, respectively, for the possible payment of penalties and $4.9 million and $3.9 million, respectively, for the possible payment of interest expense, which are recorded in *Creditors (amounts falling due within one year)* in the Consolidated Balance Sheets.

Deferred taxes arise because of different treatment between financial statement accounting and tax accounting, known as "temporary differences." We record the tax effect of these temporary differences as "deferred tax assets" (generally items that can be used as a tax deduction or credit in future periods) and "deferred tax liabilities" (generally items for which we received a tax deduction but the tax impact has not yet been recorded in the Consolidated Profit and Loss Account and Statement of Comprehensive Profit (Loss)).

Deferred taxes were recorded in the Consolidated Balance Sheets as follows:

	December 31	
In millions	**2022**	**2021**
Deferred taxation (amounts falling due after more than one year) (note 22)	$ 26.0	$ 23.1
Provisions for liabilities (note 23)	43.3	89.8
Net deferred taxation	$ 17.3	$ 66.7

The tax effects of the major items recorded as deferred tax assets and liabilities from continuing operations were as follows:

	December 31	
In millions	**2022**	**2021**
Deferred tax assets		
Accrued liabilities and reserves	$ 68.1	$ 57.8
Pension and other post-retirement compensation and benefits	19.4	24.6
Employee compensation and benefits	26.5	18.2
Research and development costs	18.1	—
Tax loss and credit carryforwards	752.4	729.7
Interest limitations	104.9	67.5
Total deferred tax assets	989.4	897.8
Valuation allowance	756.9	727.2
Deferred tax assets, net of valuation allowance	232.5	170.6
Deferred tax liabilities		
Tangible assets	18.1	10.2
Goodwill and other intangibles	213.0	210.4
Other liabilities	18.7	16.7
Total deferred tax liabilities	249.8	237.3
Net deferred taxation	$ 17.3	$ 66.7

Included in tax loss and credit carryforwards in the table above is a deferred tax asset of $29.6 million as of December 31, 2022 related to foreign tax credit carryover from the tax period ended December 31, 2017 and related to transition taxes. The entire amount is subject to a valuation allowance. The foreign tax credit is eligible for carryforward until the tax period ending December 31, 2027.

As of December 31, 2022, tax loss carryforwards of $2,967.6 million were available to offset future income. A valuation allowance of $711.2 million exists for deferred income tax benefits related to the tax loss carryforwards which may not be realized. We believe sufficient taxable income will be generated in the respective jurisdictions to allow us to fully recover the remainder of the tax losses. The tax losses primarily relate to non-U.S. carryforwards of $2,894.2 million of which $1,838.5 million are located in jurisdictions with unlimited tax loss carryforward periods, while the remainder will begin to expire in 2023. In addition, there were $7.9 million of U.S. federal loss carryforwards with unlimited tax loss carryforward periods and $65.5 million of U.S. state tax loss carryforwards as of December 31, 2022. U.S. state tax losses of $7.6 million are in jurisdictions with unlimited tax loss carryforward periods, while the remainder will expire in future years through 2042.

Deferred taxes in the amount of $2.0 million have been provided on undistributed earnings of certain subsidiaries. Taxes have not been provided on undistributed earnings of subsidiaries where it is our intention to reinvest these earnings permanently or to repatriate the earnings only when it is tax effective to do so. It is not practicable to estimate the amount of tax that might be payable if such earnings were to be remitted.

Impacts of U.S. tax legislation

In April 2020, the IRS released final regulations as part of the Tax Cuts and Jobs Act of 2017 that place limitations on the deductibility of certain interest expense for U.S. tax purposes. These regulations resulted in discrete tax expense of approximately $14.1 million in 2020, as well as an increase to our 2020 annual effective tax rate of approximately 0.3%.

In March 2020, the U.S. enacted the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") in response to the COVID-19 pandemic. The CARES Act contains numerous income tax provisions, such as relaxing limitations on the deductibility of interest and the ability to carryback net operating losses arising in taxable years from 2018 through 2020. The CARES Act provided positive cash benefits of approximately $26.9 million, offset by an increase to our 2020 annual effective tax rate of approximately 1.0% and $5.1 million in discrete tax items recorded in 2020, mainly attributable to base erosion and anti-abuse tax related to 2019.

11. Benefit Plans

Pension and other post-retirement plans

We sponsor U.S. and non-U.S. defined-benefit pension and other post-retirement plans. Pension benefits are based principally on an employee's years of service and/or compensation levels near retirement. In addition, we provide certain post-retirement health care and life insurance benefits. Generally, the post-retirement health care and life insurance plans require contributions from retirees.

Obligations and funded status

The following tables present reconciliations of plan benefit obligations, fair value of plan assets and the funded status of pension plans and other post-retirement plans as of and for the years ended December 31, 2022 and 2021:

	Pension plans		Other post-retirement plans	
In millions	**2022**	**2021**	**2022**	**2021**
Change in benefit obligations				
Benefit obligation beginning of year	$ 116.1	$ 120.8	$ 11.3	$ 13.8
Service cost	2.4	2.8	—	—
Interest cost	2.5	2.0	0.3	0.2
Actuarial gain	(22.6)	(2.1)	(1.3)	(1.4)
Foreign currency translation	(0.2)	(0.6)	—	—
Benefits paid	(7.7)	(6.8)	(1.3)	(1.3)
Benefit obligation end of year	$ 90.5	$ 116.1	$ 9.0	$ 11.3
Change in plan assets				
Fair value of plan assets beginning of year	$ 34.4	$ 33.7	$ —	$ —
Actual return on plan assets	(5.8)	(0.3)	—	—
Company contributions	7.5	8.1	1.3	1.3
Foreign currency translation	—	(0.3)	—	—
Benefits paid	(7.7)	(6.8)	(1.3)	(1.3)
Fair value of plan assets end of year	$ 28.4	$ 34.4	$ —	$ —
Funded status				
Benefit obligations in excess of the fair value of plan assets	$ (62.1)	$ (81.7)	$ (9.0)	$ (11.3)

The actuarial gain in 2022 was primarily due to increases in the discount rates to reflect economic conditions at December 31, 2022.

Amounts recorded in the Consolidated Balance Sheets were as follows:

	Pension plans		Other post-retirement plans	
In millions	**2022**	**2021**	**2022**	**2021**
Amount to be settled within one year	$ (5.9)	$ (5.7)	$ (1.3)	$ (1.3)
Amount to be settled after one year	(56.2)	(76.0)	(7.7)	(10.0)
Benefit obligations in excess of the fair value of plan assets	$ (62.1)	$ (81.7)	$ (9.0)	$ (11.3)

The accumulated benefit obligation for all defined benefit plans was $88.7 million and $112.7 million at December 31, 2022 and 2021, respectively.

Information for pension plans with an accumulated benefit obligation or projected benefit obligation in excess of plan assets as of December 31 was as follows:

	Projected benefit obligation exceeds the fair value of plan assets		Accumulated benefit obligation exceeds the fair value of plan assets	
In millions	2022	2021	2022	2021
Projected benefit obligation	$ 88.1	$ 116.1	$ 78.0	$ 116.1
Fair value of plan assets	25.9	34.4	16.5	34.4
Accumulated benefit obligation	N/A	N/A	77.7	112.7

Components of net periodic benefit expense for our pension plans for the years ended December 31 were as follows:

In millions	2022	2021
Service cost	$ 2.4	$ 2.8
Interest cost	2.5	2.0
Expected return on plan assets	(0.7)	(0.5)
Net actuarial gain	(16.4)	(1.5)
Net periodic benefit (income) expense	$ (12.2)	$ 2.8

Components of net periodic benefit expense for our other post-retirement plans for the years ended December 31, 2022 and 2021, were not material.

Assumptions

The following table provides the weighted-average assumptions used to determine benefit obligations and net periodic benefit cost as they pertain to our pension and other post-retirement plans.

	Pension plans		Other post-retirement plans	
Percentages	2022	2021	2022	2021
Benefit obligation assumptions				
Discount rate	4.77 %	2.21 %	5.11 %	2.34 %
Rate of compensation increase	3.80 %	3.61 %	N/A	N/A
Net periodic benefit expense assumptions				
Discount rate	2.21 %	1.74 %	2.34 %	1.77 %
Expected long-term return on plan assets	2.89 %	2.60 %	N/A	N/A
Rate of compensation increase	3.61 %	3.62 %	N/A	N/A

Discount rates

The discount rate reflects the current rate at which the pension liabilities could be effectively settled at the end of the year based on our December 31 measurement date. The discount rate was determined by matching our expected benefit payments to payments from a stream of bonds rated AA or higher available in the marketplace. There are no known or anticipated changes in our discount rate assumptions that will impact our pension expense in 2023.

Expected rates of return

The expected rate of return is designed to be a long-term assumption that may be subject to considerable year-to-year variance from actual returns. In developing the expected long-term rate of return, we considered our historical returns, with consideration given to forecasted economic conditions, our asset allocations, input from external consultants and broader long-term market indices. Pension plan assets yielded losses of 16.86% in 2022 and 0.89% in 2021.

Healthcare cost trend rates

The assumed healthcare cost trend rates for other post-retirement plans as of December 31 were as follows:

	2022	2021
Healthcare cost trend rate assumed for following year	5.5 %	5.5 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.0 %	4.0 %
Year the cost trend rate reaches the ultimate trend rate	2043	2046

Pension plans assets

Objective

The primary objective of our investment strategy is to meet the pension obligation to our employees at a reasonable cost to us. This is primarily accomplished through growth of capital and safety of the funds invested.

Asset allocation

Our actual overall asset allocation for our pension plans as compared to our investment policy goals as of December 31 was as follows:

	Actual		Target	
Percentages	2022	2021	2022	2021
Fixed income	58 %	67 %	58 %	68 %
Alternative	42 %	32 %	42 %	32 %
Cash	— %	1 %	— %	— %

Fair value measurement

The fair values of our pension plan assets and their respective levels in the fair value hierarchy as of December 31, 2022 and December 31, 2021 were as follows:

	December 31, 2022			
In millions	Level 1	Level 2	Level 3	Total
Fixed income	$ —	$ 16.5	$ —	$ 16.5
Other investments	—	—	11.9	11.9
Total investments at fair value	$ —	$ 16.5	$ 11.9	$ 28.4

	December 31, 2021			
In millions	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 0.3	$ —	$ —	$ 0.3
Fixed income	—	23.1	—	23.1
Other investments	—	—	11.0	11.0
Total investments at fair value	$ 0.3	$ 23.1	$ 11.0	$ 34.4

Valuation methodologies used for investments measured at fair value were as follows:

- *Cash and cash equivalents* — Cash consists of cash held in bank accounts and is considered a Level 1 investment.
- *Fixed income* — Investments in corporate bonds and government securities were valued based upon quoted market prices for similar securities and other observable market data. Investments in commingled funds were generally valued at the end of the period based upon the value of the underlying investments as determined by quoted market prices or by a pricing service. Such investments are considered a Level 2 investment.
- *Other investments* — Other investments include investments in commingled funds with diversified investment strategies. Investments in commingled funds that were valued based on unobservable inputs due to liquidation restrictions were classified as Level 3.

Activity for our Level 3 pension plan assets held during the years ended December 31, 2022 and 2021 was not material.

Cash flows

Contributions

Pension contributions totaled $7.5 million and $8.1 million in 2022 and 2021, respectively. We anticipate our 2023 pension contributions to be approximately $6.7 million. The 2023 expected contributions will equal or exceed our minimum funding requirements.

Estimated future benefit payments

The following benefit payments, which reflect expected future service or payout from termination, as appropriate, are expected to be paid by the plans in each of the next five fiscal years and in the aggregate for the five fiscal years thereafter are as follows:

In millions	Pension plans	Other post-retirement plans
2023	$ 8.0	$ 1.3
2024	7.9	1.2
2025	7.8	1.1
2026	7.5	1.0
2027	8.3	0.9
2028 - 2032	36.2	3.4

Savings plan

We have a 401(k) plan (the "401(k) plan") with an employee share ownership ("ESOP") bonus component, which covers certain union and all non-union U.S. employees who met certain age requirements. Under the 401(k) plan, eligible U.S. employees may voluntarily contribute a percentage of their eligible compensation. We match contributions made by employees who met certain eligibility and service requirements. The 401(k) company match contribution is a dollar-for-dollar (100%) matching contribution on up to 5% of employee eligible earnings, contributed as before-tax contributions.

Our expense for the 401(k) plan, including the ESOP, was $21.4 million and $19.0 million in 2022 and 2021, respectively.

Other retirement compensation

Total other accrued retirement compensation, primarily related to deferred compensation and supplemental retirement plans, was $28.5 million and $32.7 million as of December 31, 2022 and 2021, respectively, and is included in *Provisions for liabilities* and *Creditors (amounts falling due after more than one year)* in the Consolidated Balance Sheets.

12. Shareholders' Funds

Authorized shares

Our authorized share capital consists of 426.0 million ordinary shares with a par value of $0.01 per share. There were no changes to the authorized share capital since the prior financial year end.

Share repurchases

In May 2018, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $750.0 million (the "2018 Authorization"). The 2018 Authorization expired on May 31, 2021. In December 2020, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $750.0 million (the "2020 Authorization"). The 2020 Authorization expires on December 31, 2025. The 2020 Authorization supplemented the 2018 Authorization.

During the year ended December 31, 2021, we repurchased 2.1 million of our ordinary shares, with a $0.01 par value per share, for $150.0 million of which 0.8 million shares, or $50.0 million, and 1.3 million shares, or $100.0 million, were repurchased pursuant to the 2018 Authorization and 2020 Authorization, respectively.

During the year ended December 31, 2022, we repurchased 1.0 million of our ordinary shares, with a $0.01 par value per share, for $50.0 million under the 2020 Authorization. As of December 31, 2022, we had $600.0 million available for share repurchases under the 2020 Authorization.

Dividends payable

On December 12, 2022, the Board of Directors approved a 5 percent increase in the Company's regular quarterly dividend rate (from $0.21 per share to $0.22 per share) that was paid on February 3, 2023 to shareholders of record at the close of business on January 20, 2023. The balance of dividends payable included in *Creditors (amounts falling due within one year)* on our Consolidated Balance Sheets was $36.2 million at December 31, 2022. Dividends paid per ordinary share were $0.84 and $0.80 for the years ended December 31, 2022 and 2021, respectively.

See Note 5 of the Company financial statements for shareholders' funds activity of the Company.

13. Share Plans

Share-based compensation expense

Total share-based compensation expense for 2022 and 2021 was as follows:

	December 31	
In millions	**2022**	**2021**
Restricted stock units	$ 14.6	$ 13.0
Stock options	3.7	3.4
Performance share units	6.6	13.4
Total share-based compensation expense	$ 24.9	$ 29.8

Share incentive plans

In May 2020, the Pentair plc 2020 Share and Incentive Plan ("2020 Share Plan") was approved during the Annual General Meeting of Shareholders. The Pentair plc 2012 Stock and Incentive Plan ("2012 Stock Plan") terminated upon the approval of the 2020 Share Plan, although awards outstanding under the 2012 Stock Plan continue in effect. Beginning May 5, 2020, all share-based compensation grants were made under the 2020 Share Plan.

The 2020 Share Plan authorizes the issuance of 3.3 million of our ordinary shares, plus the number of shares reserved under the 2012 Stock Plan that were not the subject of outstanding awards as of the date the 2020 Share Plan became effective, which was 2.5 million shares, plus certain shares that would become available under the 2012 Stock Plan if it had remained in effect. The shares may be issued as new shares or from shares held in treasury. Our practice is to settle equity-based awards by issuing new shares. The 2020 Share Plan terminates on the date all shares reserved for issuance have been issued. The 2020 Share Plan allows for the granting to our employees, consultants and directors of stock options, stock appreciation rights, performance share units, restricted shares, restricted stock units, deferred stock rights, incentive awards, dividend equivalent units and other equity-based awards.

The 2020 Share Plan is administered by our compensation committee (the "Committee"), which is made up of independent members of our Board of Directors. Employees eligible to receive awards under the 2020 Share Plan are managerial, administrative or professional employees. The Committee has the authority to select the recipients of awards, determine the type and size of awards, establish certain terms and conditions of award grants and take certain other actions as permitted under the 2020 Share Plan. The 2020 Share Plan prohibits the Committee from re-pricing awards or canceling and reissuing awards at lower prices.

Non-qualified and incentive stock options

Under the 2020 Share Plan, we may grant stock options to any eligible employee with an exercise price equal to the market value of the shares on the dates the options were granted. Options generally vest one-third each year over a period of three years commencing on the grant date and expire 10 years after the grant date.

Restricted shares and restricted stock units

Under the 2020 Share Plan, eligible employees may be awarded restricted shares or restricted stock units of our common stock. Restricted shares and restricted stock units generally vest one-third each year over a period of three years commencing on the grant date, subject to continuous employment and certain other conditions. Restricted shares and restricted stock units are valued at market value on the date of grant and are expensed over the vesting period.

Stock appreciation rights, performance shares and performance units

Under the 2020 Share Plan, the Committee is permitted to issue these awards which are generally contingent on the achievement of predetermined performance goals over a vesting period of three years. The Committee has the ability to adjust performance goals or modify the manner of measuring or evaluating a performance goal using its discretion. PSUs are granted to certain employees that vest based on the satisfaction of a service period of three years and the achievement of certain performance metrics over that same period. Upon vesting, PSU holders receive dividends that accumulate during the vesting period. The fair value of these PSUs is determined based on the closing market price of the Company's ordinary shares at the date of grant. Compensation expense is recognized over the period an employee is required to provide service based on the estimated vesting of the PSUs granted. The estimated vesting of the PSUs is based on the probability of achieving certain performance metrics during the vesting period.

Stock options

The following table summarizes stock option activity under all plans for the year ended December 31, 2022:

Shares and intrinsic value in millions	Number of shares	Weighted-average exercise price	Weighted-average remaining contractual life (years)	Aggregate intrinsic value
Outstanding as of January 1, 2022	2.2	$ 42.86		
Granted	0.3	65.67		
Exercised	(0.1)	39.44		
Forfeited	(0.1)	52.45		
Outstanding as of December 31, 2022	2.3	$ 45.16	4.8	$ 8.3
Options exercisable as of December 31, 2022	1.8	$ 41.69	3.9	$ 8.2
Options expected to vest as of December 31, 2022	0.5	$ 57.44	7.9	$ 0.1

Fair value of options granted

The weighted average grant date fair value of options granted under Pentair plans in 2022 and 2021 was estimated to be $17.88 and $12.88 per share, respectively. The total intrinsic value of options that were exercised during 2022 and 2021 was $0.7 million and $29.0 million, respectively. At December 31, 2022, the total unrecognized compensation cost related to stock options was $3.9 million. This cost is expected to be recognized over a weighted average period of 1.9 years.

We estimated the fair value of each stock option award issued in the annual share-based compensation grant using a Black-Scholes option pricing model, modified for dividends and using the following assumptions:

	December 31	
	2022	2021
Risk-free interest rate	1.18 %	0.37 %
Expected dividend yield	1.14 %	1.56 %
Expected share price volatility	29.60 %	29.60 %
Expected term (years)	6.4	6.5

These estimates require us to make assumptions based on historical results, observance of trends in our share price, changes in option exercise behavior, future expectations and other relevant factors. If other assumptions had been used, share-based compensation expense, as calculated and recorded under the accounting guidance, could have been affected.

We based the expected life assumption on historical experience as well as the terms and vesting periods of the options granted. For purposes of determining expected volatility, we considered a rolling average of historical volatility measured over a period approximately equal to the expected option term. The risk-free rate for periods that coincide with the expected life of the options is based on the U.S. Treasury Department yield curve in effect at the time of grant.

Cash received from option exercises for the years ended December 31, 2022 and 2021 was $2.5 million and $29.3 million, respectively. The tax benefit related to options exercised was $0.1 million and $6.2 million for the years ended December 31, 2022 and 2021, respectively.

Restricted stock units

The following table summarizes restricted stock unit activity under all plans for the year ended December 31, 2022:

Shares in millions	Number of shares	Weighted average grant date fair value
Outstanding as of January 1, 2022	0.6	$ 47.78
Granted	0.3	59.82
Vested	(0.2)	47.18
Forfeited	(0.1)	53.84
Outstanding as of December 31, 2022	0.6	$ 53.10

As of December 31, 2022, there was $20.0 million of unrecognized compensation cost related to restricted share compensation arrangements granted under the 2020 Plan and previous plans. That cost is expected to be recognized over a weighted-average period of 0.8 years. The total fair value of shares vested during the years ended December 31, 2022 and 2021 was $11.7 million and $10.5 million. The tax benefit related to restricted stock units vested was $2.1 million and $0.6 million for the years ended December 31, 2022 and 2021, respectively.

Performance share units

The following table summarizes performance share unit activity under all plans for the year ended December 31, 2022:

Shares in millions	Number of shares	Weighted average grant date fair value
Outstanding as of January 1, 2022	0.4	$ 45.55
Granted	0.1	68.19
Vested	(0.1)	38.54
Outstanding as of December 31, 2022	0.4	$ 55.45

The expense recognized each period is dependent upon our estimate of the number of shares that will ultimately be issued. As of December 31, 2022, there was $11.8 million of unrecognized compensation cost related to performance share compensation arrangements granted under the 2020 Plan and previous plans. That cost is expected to be recognized over a weighted-average period of 1.2 years. The tax benefit related to performance share units was $0.3 million for the year ended December 31, 2022 and $0.1 million for the year December 31, 2021.

14. Segment Information

We classify our operations into the following business segments:

- ***Consumer Solutions*** — This segment designs, manufactures and sells energy-efficient residential and commercial pool equipment and accessories, and commercial and residential water treatment products and systems. Residential and commercial pool equipment and accessories include pumps, filters, heaters, lights, automatic controls, automatic cleaners, maintenance equipment and pool accessories. Water treatment products and systems include pressure tanks, control valves, activated carbon products, commercial ice machines, conventional filtration products, and point-of-entry and point-of-use systems. Applications for our pool business's products include residential and commercial pool maintenance, repair, renovation, service and construction. Our water treatment products and systems are used in residential whole home water filtration, drinking water filtration and water softening solutions in addition to commercial total water management and filtration in foodservice operations. In addition, our water solutions business also provides installation and preventative services for water management solutions for commercial operators. The primary focus of this segment is business-to-consumer.

- ***Industrial & Flow Technologies*** — This segment manufactures and sells a variety of fluid treatment and pump products and systems, including pressure vessels, gas recovery solutions, membrane bioreactors, wastewater reuse systems and advanced membrane filtration, separation systems, water disposal pumps, water supply pumps, fluid transfer pumps, turbine pumps, solid handling pumps, and agricultural spray nozzles, while serving the global residential, commercial and industrial markets. These products and systems are used in a range of applications, fluid delivery, ion exchange, desalination, food and beverage, separation technologies for the oil and gas industry, residential and municipal wells, water treatment, wastewater solids handling, pressure boosting, circulation and transfer, fire suppression, flood control, agricultural irrigation and crop spray. The primary focus of this segment is business-to-business.

We evaluate performance based on net sales and segment income (loss) and use a variety of ratios to measure performance of our reporting segments. These results are not necessarily indicative of the results of operations that would have occurred had each segment been an independent, stand-alone entity during the periods presented. Segment income (loss) represents equity income of unconsolidated subsidiaries and operating income exclusive of intangible amortization, certain acquisition related expenses, costs of restructuring and transformation activities, impairments and other unusual non-operating items.

Financial information of continuing operations by reportable segment is included in the following summary:

In millions	Net sales 2022	Net sales 2021	Segment income (loss) 2022	Segment income (loss) 2021
Consumer Solutions	$ 2,619.5	$ 2,341.9	$ 611.1	$ 554.4
Industrial & Flow Technologies	1,500.8	1,421.4	242.3	213.3
Other	1.5	1.5	(85.7)	(81.8)
Consolidated [(1)]	$ 4,121.8	$ 3,764.8	$ 767.7	$ 685.9

(1) One customer in the Consumer Solutions' pool business represented approximately 20% of our consolidated net sales in both 2022 and 2021.

In millions	Identifiable assets [(1)] 2022	Identifiable assets [(1)] 2021	Capital expenditures 2022	Capital expenditures 2021	Depreciation 2022	Depreciation 2021
Consumer Solutions	$ 4,496.7	$ 2,823.0	$ 53.5	$ 32.5	$ 27.3	$ 23.7
Industrial & Flow Technologies	1,722.4	1,716.4	24.0	23.0	19.5	21.4
Other	228.4	214.2	7.7	4.7	7.3	6.1
Consolidated	$ 6,447.5	$ 4,753.6	$ 85.2	$ 60.2	$ 54.1	$ 51.2

(1) All cash and cash equivalents are included in "Other."

The following table presents a reconciliation of consolidated segment income to profit from continuing operations before taxation:

In millions	2022	2021
Segment income	$ 767.7	$ 685.9
Restructuring and other	(32.4)	(7.5)
Transformation costs	(27.2)	(11.7)
Inventory step-up	(5.8)	(2.3)
Intangible amortization	(52.5)	(26.3)
Pension and other post-retirement mark-to-market gain	17.5	2.4
Asset impairment and write-offs	(25.6)	—
Gain on sale of businesses	0.2	1.4
Russia business exit impact	(4.7)	—
Interest expense, net	(61.8)	(12.5)
Deal related costs and expenses	(22.2)	(7.9)
COVID-19 related costs and expenses	—	(0.6)
Legal accrual adjustments and settlements	(0.2)	7.6
Other expense	(2.4)	(1.7)
Profit from continuing operations before taxation	$ 550.6	$ 626.8

15. Commitments and Contingencies

Legal proceedings

We have been, and in the future may be, made parties to a number of actions filed or have been, and in the future may be, given notice of potential claims relating to the conduct of our business, including those relating to commercial, regulatory or contractual disputes with suppliers, authorities, customers or parties to acquisitions and divestitures, intellectual property matters, environmental, asbestos, safety and health matters, product liability, the use or installation of our products, consumer matters, and employment and labor matters.

While we believe that a material impact on our consolidated financial position, results of operations or cash flows from any such future claims or potential claims is unlikely, given the inherent uncertainty of litigation, a remote possibility exists that a future adverse ruling or unfavorable development could result in future charges that could have a material adverse impact. We do and will continue to periodically reexamine our estimates of probable liabilities and any associated expenses and receivables and make appropriate adjustments to such estimates based on experience and developments in litigation and applicable accounting rules. As a result, the current estimates of the potential impact on our consolidated financial position, results of operations and cash flows for the proceedings and claims described in the notes to our consolidated financial statements could change in the future.

Environmental matters

We have been named as defendant, target or a potentially responsible party in a number of environmental clean-ups relating to our current or former business units. Accruals for environmental matters are recorded on a site-by-site basis when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated, based on current law and existing technologies. It can be difficult to estimate reliably the final costs of investigation and remediation due to various factors. In our opinion, the amounts accrued are appropriate based on facts and circumstances as currently known. As of December 31, 2022 and 2021, our recorded reserves for environmental matters were not material.

Product liability claims

We are subject to various product liability lawsuits and personal injury claims. A substantial number of these lawsuits and claims are insured and accrued for by Penwald, our captive insurance subsidiary. Penwald records a liability for these claims based on actuarial projections of ultimate losses. For all other claims, accruals covering the claims are recorded, on an undiscounted basis, when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated based on existing information. The accruals are adjusted periodically as additional information becomes available. We have not experienced significant unfavorable trends in either the severity or frequency of product liability lawsuits or personal injury claims.

Leases

Our lease portfolio principally consists of operating leases related to facilities, machinery, equipment and vehicles. Our accounting for lease terms does not include options to extend or terminate the lease until we are reasonably certain that we will exercise that option. Operating lease cost for lease payments is recognized on a straight-line basis over the lease term and principally consists of fixed payments for base rent.

The components of rental expense were as follows:

In millions	December 31, 2022	December 31, 2021
Operating rental expense	$ 46.8	$ 37.2
Sublease rental income	(0.9)	(1.0)
Total rental expense	$ 45.9	$ 36.2

Supplemental cash flow information related to leases was as follows:

In millions	December 31, 2022	December 31, 2021
Operating cash flows from operating leases	$ 47.3	$ 41.5
Right-of-use assets obtained in exchange for lease obligations	$ 19.3	$ 12.2

Other information related to leases was as follows:

	December 31, 2022	December 31, 2021
Weighted-average remaining lease term of operating leases (years)	3.7	4.1
Weighted-average discount rate of operating leases	4.4 %	5.1 %

Future minimum lease commitments under non-cancelable operating leases as of December 31, 2022 were as follows:

In millions		
2023	$	32.2
2024		24.9
2025		14.1
2026		8.4
2027		4.7
Thereafter		3.7
Total lease payments		88.0
Less: imputed interest		(6.3)
Total	$	81.7

Purchase and marketing obligations

The majority of the Group's purchase obligations represent commitments for raw materials to be utilized in the normal course of business. Arrangements are considered purchase obligations if a contract specifies all significant terms, including fixed or minimum quantities to be purchased, a pricing structure and approximate timing of the transaction. At December 31, 2022, the Group had aggregate purchase and marketing obligations of $34.6 million, of which $19.8 million relates to fiscal year 2023.

Warranties and guarantees

In connection with the disposition of our businesses or product lines, we may agree to indemnify purchasers for various potential liabilities relating to the sold business, such as pre-closing tax, product liability, warranty, environmental, or other obligations. The subject matter, amounts and duration of any such indemnification obligations vary for each type of liability indemnified and may vary widely from transaction to transaction.

Generally, the maximum obligation under such indemnifications is not explicitly stated and as a result, the overall amount of these obligations cannot be reasonably estimated. Historically, we have not made significant payments for these indemnifications. We believe that if we were to incur a loss in any of these matters, the loss would not have a material effect on our financial position, results of operations or cash flows.

We recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. In connection with the disposition of the Valves & Controls business, we agreed to indemnify Emerson Electric Co. for certain pre-closing tax liabilities. We have recorded a liability representing the fair value of our expected future obligation for this matter.

We provide service and warranty policies on our products. Liability under service and warranty policies is based upon a review of historical warranty and service claim experience. Adjustments are made to accruals as claim data and historical experience warrant.

The changes in the carrying amount of service and product warranties from continuing operations were as follows:

	Years ended December 31	
In millions	2022	2021
Beginning balance	$ 40.5	$ 37.0
Service and product warranty provision	85.3	55.3
Payments	(70.4)	(51.8)
Acquisitions	8.0	0.3
Foreign currency translation	(0.3)	(0.3)
Ending balance (note 23)	$ 63.1	$ 40.5

Stand-by letters of credit, bank guarantees and bonds

In certain situations, Tyco International Ltd., Pentair Ltd.'s former parent company ("Tyco"), guaranteed performance by the flow control business of Pentair Ltd. ("Flow Control") to third parties or provided financial guarantees for financial commitments of Flow Control. In situations where Flow Control and Tyco were unable to obtain a release from these guarantees in connection with the spin-off of Flow Control from Tyco, we will indemnify Tyco for any losses it suffers as a result of such guarantees.

In the ordinary course of business, we are required to commit to bonds, letters of credit and bank guarantees that require payments to our customers for any non-performance. The outstanding face value of these instruments fluctuates with the value of our projects in process and in our backlog. In addition, we issue financial stand-by letters of credit primarily to secure our performance to third parties under self-insurance programs.

As of December 31, 2022 and 2021, the outstanding value of bonds, letters of credit and bank guarantees totaled $99.7 million and $104.5 million, respectively.

16. Interest Payable and Similar Charges

Interest payable and similar charges of continuing operations for 2022 and 2021 were comprised of the following:

	December 31	
In millions	**2022**	**2021**
Interest on debt repayable within five years, otherwise than by installment	$ 38.4	$ 9.1
Interest on debt repayable beyond five years, otherwise than by installment	29.5	18.0
Amortization of debt issuance and bridge financing costs	11.1	1.8
Other	3.3	1.2
Total interest payable and similar charges	$ 82.3	$ 30.1

17. Profit Attributable to Pentair plc

In accordance with Section 304(2) of the Companies Act 2014, the Company is availing itself of the exemption from presenting and filing its individual profit and loss account. Pentair plc's loss for the year ended December 31, 2022 and profit for the year ended December 31, 2021, as determined in accordance with FRS 102, the Financial Reporting Standard applicable in the U.K. and Ireland, was $1,137 million and $281 million, respectively.

18. Tangible Assets

Tangible assets at cost and accumulated depreciation consisted of the following at December 31:

	December 31	
In millions	**2022**	**2021**
Land and land improvements	$ 32.3	$ 34.8
Buildings and leasehold improvements	200.7	194.5
Machinery and equipment	639.2	607.3
Capitalized software	68.8	66.5
Construction in progress	60.6	62.8
Total tangible assets	1,001.6	965.9
Accumulated depreciation and amortization	657.1	655.9
Total tangible assets, net	$ 344.5	$ 310.0

Tangible assets activity for 2022 was as follows:

In millions	Land and land improvements	Buildings and leasehold improvements	Machinery and equipment	Capitalized Software	Construction in progress	Total Tangible Assets
December 31, 2021	$ 34.8	$ 194.5	$ 607.3	$ 66.5	$ 62.8	$ 965.9
Additions	—	1.3	67.4	4.7	29.4	102.8
Disposals	(2.2)	(1.3)	(23.4)	(1.2)	—	(28.1)
Acquisitions	0.8	11.0	8.8	0.1	0.9	21.6
Transfers / Other	0.1	0.1	(9.0)	—	(32.3)	(41.1)
Currency translation	(1.2)	(4.9)	(11.9)	(1.3)	(0.2)	(19.5)
December 31, 2022	$ 32.3	$ 200.7	$ 639.2	$ 68.8	$ 60.6	$ 1,001.6

Tangible asset accumulated depreciation activity for financial year 2022 was as follows:

In millions	December 31, 2021	Depreciation expense	Disposals	Other	Currency translation	December 31, 2022
Accumulated depreciation	$ 655.9	$ 54.1	$ (26.1)	$ (13.2)	$ (13.6)	$ 657.1

19. Creditors (amounts falling due within one year)

Creditors (amounts falling due within one year) consisted of the following at December 31:

	December 31	
In millions	2022	2021
Current maturities of long-term debt and short-term borrowings (note 8)	$ 12.5	$ 88.3
Trade creditors	355.0	385.7
Employee compensation and benefits	98.8	133.0
Dividends payable	36.2	33.0
Billings in excess of cost	43.8	31.2
Accrued professional fees	34.9	36.8
Accrued rebates and incentives	200.1	198.7
Income taxes payable	21.8	32.0
Accrued excise tax	5.2	3.9
Freight payable	39.4	36.5
Interest payable	32.9	10.1
Current lease liability	29.3	25.6
Other creditors	59.0	53.7
Total creditors falling due within one year	$ 968.9	$ 1,068.5

20. Creditors (amounts falling due after more than one year)

Creditors (amounts falling due after more than one year) consisted of the following at December 31:

	December 31	
In millions	2022	2021
Long-term debt (note 8)	$ 2,304.8	$ 805.8
Long-term lease liability	52.4	62.6
Income taxes payable	35.1	34.1
Deferred compensation plan liabilities	21.7	25.6
Foreign currency contract liabilities	52.2	9.5
Other creditors falling due after one year	31.5	28.6
Total creditors falling due after one year	$ 2,497.7	$ 966.2

21. Financial Assets

The Group's financial assets consisted of the following at December 31:

	December 31	
In millions	2022	2021
Assets held by Rabbi Trust (note 9)	$ 21.7	$ 25.6
Long-term project receivable	14.9	17.6
Other investments	14.3	21.9
Total financial assets	$ 50.9	$ 65.1

22. Debtors

Debtors consisted of the following at December 31:

	December 31	
In millions	2022	2021
Amounts falling due within one year		
Trade debtors and notes receivable, net of allowances	$ 531.5	$ 534.3
Prepaid expenses	74.8	57.1
Cost in excess of billings	48.4	48.8
Other debtors	4.9	6.4
Total debtors falling due within one year	$ 659.6	$ 646.6
Amounts falling due after more than one year		
Deferred taxation (note 10)	26.0	23.1
Other debtors	41.7	34.3
Total debtors falling due after more than one year	$ 67.7	$ 57.4
Total debtors	$ 727.3	$ 704.0

23. Provisions for Liabilities

Provisions for liabilities consisted of the following at December 31:

	December 31	
In millions	**2022**	**2021**
Pension and other post-retirement compensation and benefits (note 11)	$ 78.0	$ 100.3
Deferred taxation (note 10)	43.3	89.8
Accrued warranty (note 15)	63.1	40.5
Insurance reserves (note 1)	65.1	55.6
Restructuring (note 4)	23.2	10.7
Total provisions for liabilities	$ 272.7	$ 296.9

24. Director's Remuneration

The directors are deemed to be the key management personnel. Directors' remuneration is set forth in the tables below. Mr. Stauch, the Company's President and Chief Executive Officer, is not compensated for his services as director. Accordingly, the amounts below include compensation for Mr. Stauch's services as Chief Executive Officer for the years ended December 31, 2022 and 2021.

	December 31	
In millions	**2022**	**2021**
Aggregate emoluments paid to or received by directors in respect of qualifying service	$ 3.0	$ 4.5
Money or value of other assets, including shares but excluding share options, paid to or receivable by the directors under long-term incentive schemes	5.9	4.9
Money or value of other assets, in relation to share options, paid to or receivable by the directors under long-term incentive schemes	1.5	1.3

	December 31			
	2022		**2021**	
In millions, except number of directors	**Number of directors**	**Amount**	**Number of directors**	**Amount**
Aggregate contributions paid, treated as paid or payable during the financial year to a retirement benefit scheme in respect of qualifying services of directors				
Defined contribution schemes	1	$ —	1	$ —
Defined benefit schemes	1	—	1	—

There were no amounts paid or payable to past directors of the Company or of its subsidiary undertakings for the years ended December 31, 2022 and 2021.

25. Auditor's Remuneration

Auditor's remuneration for 2022 and 2021 was as follows:

	December 31	
In millions	**2022**	**2021**
Audit of the group accounts	$ 0.2	$ 0.2
Other assurance services	—	—
Tax advisory services	—	—
Other non-audit services	—	—
Total auditor's remuneration	$ 0.2	$ 0.2

The Group incurred total fees of $7.5 million in 2022 and $7.2 million 2021 payable to affiliates of Deloitte Ireland LLP. These additional amounts reflect fees for professional services rendered, including audit fees payable to Deloitte & Touche LLP in the U.S. for the audit of the Group's consolidated annual financial statements and the effectiveness of internal controls over financial reporting and reviews of the Group's quarterly consolidated financial statements.

26. Employees

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

	2022	2021
Manufacturing	8,131	7,454
Selling and marketing	1,709	1,611
Research and development	642	560
General and administrative	924	845
Total average employees	11,406	10,470

Total employee costs for 2022 and 2021 were expensed as follows:

	December 31	
In millions	2022	2021
Wages and salaries	$ 935.0	$ 886.9
Social insurance costs	78.3	72.5
Pension and other retirement benefit (income) costs	(13.2)	1.6
Total employee costs	$ 1,000.1	$ 961.0

Other compensation costs related to restructuring are disclosed in Note 4.

27. Subsidiary Undertakings

As of December 31, 2022, the Group had the following subsidiary undertakings:

Company name	Country	Percentage owned	Business purpose	Registered office address
Air Capital Filtration, LLC	United States	100%	Manufacturing	101 Industrial Street, Marked Tree AZ 72365, United States
APEL International, LLC	United States	100%	Manufacturing	11201 Ampere Court, Louisville, KY, 40299
Aplex Industries, Inc.	United States	100%	Manufacturing	2045 S. Loop 250 West, Midland TX 79703, United States
Aqua Membranes, Inc.	United States	10%	Manufacturing	5601 Midway Park Place, Albuquerque NM 87710, United States
Aquion (Xi'an) Water Treatment Equipment Co., Ltd.	China	100%	Manufacturing	Room 1-1404, Block D, Gaoke Plaza Gaoxin Si Lu 3, Xi’an High-Tech Zone, Xi’an 710075 PR China, China
Aquion Hong Kong Limited	Hong Kong	100%	Manufacturing	Room 2004, 20/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong
Aquion, Inc.	United States	100%	Manufacturing	101 S. Gary Avenue, Roselle IL 60172, United States
Be the Change Labs, Inc.	United States	100%	Sales & Marketing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Century Mfg. Co.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
ClearWater Tech, L.L.C.	United States	100%	Manufacturing	850-E Capitolio Way, San Luis Obispo CA 93401, United States
delMAC Filters, LLC	United States	100%	Holding Company	1404 Arlington Drive, Greenville PA 16125, United States
Enviro Water Solutions LLC	United States	100%	Manufacturing	3060 Performance Circle, Unit B, Deland FL 32724, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
ETE Coliban Pty Limited	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Everpure Japan Kabushiki Kaisha	Japan	100%	Manufacturing	25-1, Hashimoto 3-Chome, Midori-Ku,, Sagamihara-shi,, Kanagawa, Japan
FARADYNE Motors (Suzhou) Co., Ltd	China	50%	Manufacturing	EPZ Zone A, No. 200 Suhong Middle Road, Suzhou Industrial Park, Suzhou, Jiangsu, 215021, China
Faradyne Motors LLC	United States	50%	Manufacturing	2077 Division Street, Palmyra NY 14522, United States
FilterDeal, LLC	United States	100%	Sales & Marketing	1404 Arlington Drive, Greenville PA 16125, United States
Filter-Medic, LLC	United States	100%	Manufacturing	3721 Collins Ln, Louisville, KY 40245
FilterSoft, LLC	United States	100%	Manufacturing	4301 West Davis, Conroe TX 77304, United States
Fleck Controls, Inc.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Goyen Controls Co. Pty. Limited	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Goyen Valve LLC	United States	100%	Distribution	1195 Airport Road, Lakewood NJ 08701, United States
Greenspan Environmental Technology Pty Ltd	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Guardian Filtration Products, LLC	United States	100%	Manufacturing	1404 Arlington Drive, Greenville PA 16125, United States
Haffmans B.V.	Netherlands	100%	Manufacturing	Marinus Dammeweg 30, 5928 PW, Venlo, Netherlands
Haffmans North America, Inc.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Hawley Group Canada Limited	Canada	100%	Holding Company	18 York Street, Suite 2500-C, Toronto ON M5J 0B2, Canada
Hypro EU Limited	United Kingdom	100%	Manufacturing	Station Road, Longstanton, Cambridge, England, CB24 3DS, United Kingdom
Jung Pumpen GmbH	Germany	100%	Manufacturing	Industriestraße 4-6, 33803, Steinhagen, Germany
Lincoln Automotive Company	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Manitowoc Foodservice (Switzerland) GmbH	Switzerland	100%	Manufacturing	Freier Platz 10, CH-8200 Schaffhausen, Switzerland
Manitowoc FSG Holding, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Manitowoc FSG Manufactura Mexico, S. de R.L. de C.V.	Mexico	100%	Manufacturing	Lot 5A, Rancho el Refugio, Guadalupe, Nuevo Leon , Mexico
McNeil (Ohio) Corporation	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
MECAIR S.r.L.	Italy	100%	Manufacturing	Via Bertacciola 50, 20813, Bovisio Masciago, Italy
Milperra Developments Pty Limited	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Milton Acquisition ULC	Canada	100%	Holding Company	5063 North Service Rd., Suite 100, Burlington ON L7L 5H6, Canada
Mobile Pool Builder, Inc.	United States	100%	Sales & Marketing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
Moraine Properties, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Nano Terra, Inc.	United States	5%	Holding Company	251 Little Falls Drive, Wilmington DE 19801, United States
Nijhuis Pompen B.V.	Netherlands	100%	Manufacturing	Parallelweg 4, 7102 DE, Winterswijk, Netherlands
Panthro Acquisition Co.	United States	100%	Holding Company	251 Little Falls Drive, Wilmington DE 19801, United States
Pelican Holding Corporation	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Aquatic Eco-Systems, Inc.	United States	100%	Manufacturing	2395 Apopka Blvd., Apopka FL 32703, United States
Pentair Australia Holdings Pty Limited	Australia	100%	Holding company	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Pentair Canada, Inc.	Canada	100%	Distribution	18 York Street, Suite 2500-C, Toronto ON M5J 0B2, Canada
Pentair Clean Process Technologies India Private Limited	India	100%	Manufacturing	Workfella, 37 TTK Road, Alwarpet Chennai, Chennai, Tamilnadu, 600018, India
Pentair Commercial Ice LLC	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Commercial Services LLC	United States	100%	Manufacturing	10015 South Mandel St., Plainfield IL 60585, United States
Pentair Denmark Holding ApS	Denmark	100%	Holding Company	Snaremosevej 27, Erritsø, 7000, Fredericia, Denmark
Pentair Federal Pump, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Filtration Sales & Service Company, LLC	United States	100%	Sales & Marketing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Filtration Solutions, LLC	United States	100%	Holding Company	1040 Muirfield Drive, Hanover Park IL 60133, United States
Pentair Finance Group GmbH	Switzerland	100%	Holding Company	Freier Platz 10, CH-8200 Schaffhausen, Switzerland
Pentair Finance S.a.r.l.	Luxembourg	100%	Holding Company	Regus Business Center, 26, Boulevard Royal, Grand-Duchy of Luxembourg, L-2449, Luxembourg
Pentair Finance Switzerland GmbH	Switzerland	100%	Holding Company	Freier Platz 10, CH-8200 Schaffhausen, Switzerland
Pentair Flow Control International Pty Limited	Australia	100%	Holding Company	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Pentair Flow Services AG	Switzerland	100%	Holding Company	Freier Platz 10, CH-8200 Schaffhausen, Switzerland
Pentair Flow Technologies de Mexico, S. de R.L. de C.V.	Mexico	100%	Manufacturing	Los Nogales, Lote 10, Manzana 5, Parque Industrial Villa Florida, Reynosa Tamaulipas, C.P. 88718, Mexico
Pentair Flow Technologies Pacific Pty Ltd	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Pentair Flow Technologies, LLC	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
Pentair France SARL	France	100%	Manufacturing	Le Broc Center, 1ere avenue 5600 metres, 06510, Carros-Le Broc, France
Pentair Germany GmbH	Germany	100%	Holding Company	Industriestraße 4-6, 33803, Steinhagen, Germany
Pentair Global Holdings B.V.	Netherlands	100%	Holding Company	Marssteden 50, 7547 TC, Enschede, Netherlands
Pentair Global S.a.r.l.	Luxembourg	100%	Holding Company	Regus Business Center, 26, Boulevard Royal, Grand-Duchy of Luxembourg, L-2449, Luxembourg
Pentair Group (Thailand) Limited	Thailand	100%	Sales & Marketing	33/4 The Ninth Tower Grand Rama 9, Tower B, 16th Floor, Unit TNB03, Rama 9 Road, Huaykwang Sub-district, Huaykwang District, Bangkok, 10310, Thailand
Pentair Holdings S.a.r.l.	Luxembourg	100%	Holding Company	Regus Business Center, 26, Boulevard Royal, Grand-Duchy of Luxembourg, L-2449, Luxembourg
Pentair Holdings, Inc.	United States	100%	Holding Company	251 Little Falls Drive, Wilmington DE 19801, United States
Pentair Housing, Inc.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Housing, LP	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair International (UK) Ltd	United Kingdom	100%	Holding Company	Regal House, 70 London Road, Twickenham, TW1 3QS, United Kingdom
Pentair International Holding S.a.r.l.	Luxembourg	100%	Holding Company	Regus Business Center, 26, Boulevard Royal, Grand-Duchy of Luxembourg, L-2449, Luxembourg
Pentair International Sarl	Switzerland	100%	Holding Company	Avenue de Sevelin 18, 1004, Lausanne, Vaud, Switzerland
Pentair Investments Switzerland GmbH	Switzerland	100%	Holding Company	Freier Platz 10, CH-8200 Schaffhausen, Switzerland
Pentair Ireland Limited	Ireland	100%	Holding Company	Level 1, The Chase, Carmanhall Road, Sandyford, Dublin, D18 Y3X2, Ireland
Pentair Luxembourg S.a.r.l.	Luxembourg	100%	Holding Company	Regus Business Center, 26, Boulevard Royal, Grand-Duchy of Luxembourg, L-2449, Luxembourg
Pentair Management Company	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Manufacturing Belgium BV	Belgium	100%	Manufacturing	Toekomstlaan 30, B-2200 Herentals, Belgium
Pentair Manufacturing Italy S.r.L.	Italy	100%	Manufacturing	Via Giuseppe Revere 16, 20123 , Milano, Italy
Pentair Middle East FZE	United Arab Emirates	100%	Manufacturing	Unit No. SRT-FLR15-15.01 & 15.08, Sheikh Rashid Tower Dubai , Dubai World Trade Centre, Dubai, United Arab Emirates
Pentair Nanosoft US Holdings, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Netherlands Euro Finance B.V.	Netherlands	100%	Manufacturing	Marssteden 50, 7547 TC, Enschede, Netherlands

Company name	Country	Percentage owned	Business purpose	Registered office address
Pentair Netherlands Finance B.V.	Netherlands	100%	Holding Company	Marssteden 50, 7547 TC, Enschede, Netherlands
Pentair Netherlands Holding B.V.	Netherlands	100%	Holding Company	Marssteden 50, 7547 TC, Enschede, Netherlands
Pentair Pacific Rim (Water) Limited	Hong Kong	100%	Holding Company	Suite 1106-8, 11/F, Tai Yau Building, No. 181 Johnston Road, Wanchai, Hong Kong
Pentair Pacific Rim, Limited	Hong Kong	100%	Holding Company	Suite 1106-8, 11/F, Tai Yau Building, No. 181 Johnston Road, Wanchai, Hong Kong
Pentair Philippines, Inc.	Philippines	100%	Sales & Marketing	5th floor, Kalimera Building 1747 Nicanor Garcia Street, corner D. Oliman Street, San Miguel Village, Barangay Poblacion, Makati City, Metro Manila, 1210, Philippines
Pentair Pleatco Acquisition LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Residential Filtration, LLC	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Sales LLC	United States	100%	Sales & Marketing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Sudmo GmbH	Germany	100%	Manufacturing	Industriestraße 7, 73469, Riesbürg, Germany
Pentair Trading (Shanghai) Co., Ltd.	China	100%	Sales & Marketing	921B No.55 Xili Road, Free Trade Zone, Shanghai, China
Pentair Transport, Inc.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair UK Holdings Limited	United Kingdom	100%	Holding Company	Regal House, 70 London Road, Twickenham, London, TW13QS United Kingdom
Pentair US LLC 1	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair US LLC 2	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair US LP	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Water (Suzhou) Company, Ltd.	China	100%	Sales & Marketing	No. 371 He Shan Road, New District, Suzhou, Jiangsu, 215 011, China
Pentair Water Asia Pacific Pte. Ltd.	Singapore	100%	Holding Company	390 Havelock Road, #04-01 King's Centre, 169662, Singapore
Pentair Water Australia Pty Ltd	Australia	100%	Holding Company	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Pentair Water Belgium BV	Belgium	100%	Manufacturing	Toekomstlaan 30, B-2200 Herentals, Belgium
Pentair Water Brazil LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
Pentair Water do Brasil Ltda.	Brazil	100%	Manufacturing	Av. Marginal Norte da Via Anhanguera, No 53.700, Vila Rami - Jundiai - SP, 13206-245, Brazil
Pentair Water France SAS	France	100%	Manufacturing	Le Broc Center, 1ere avenue 5600 metres, 06510, Carros-Le Broc, France
Pentair Water Group, Inc.	United States	100%	Manufacturing	293 Wright Street, Delavan WI 53115, United States
Pentair Water Holdings, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Water India Private Limited	India	100%	Manufacturing	L 52-55,Verna Industrial Estate, Phase II, Verna Salcette, Goa, 403 722, India
Pentair Water Italy S.r.l.	Italy	100%	Manufacturing	Via Giuseppe Revere 16, 20123 , Milano, Italy
Pentair Water Latinamerica S.A.	Argentina	100%	Manufacturing	San José 165 PB, C1076 AAC, Ciudad Autónoma de Buenos Aires, Argentina
Pentair Water Operations Australia Pty Ltd	Australia	100%	Manufacturing	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
Pentair Water Polska Sp.zoo	Poland	100%	Manufacturing	Ul. Plonów 21, 41-200, Sosnowiec, Poland
Pentair Water Pool and Spa, Inc.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Water Process Technologies Holding B.V.	Netherlands	100%	Holding Company	Marssteden 50, 7547 TC, Enschede, Netherlands
Pentair Water Process Technology B.V.	Netherlands	100%	Manufacturing	Marssteden 50, 7547 TC, Enschede, Netherlands
Pentair Water Purification Systems (Shanghai) Co., Ltd.	China	100%	Sales & Marketing	622, No.55 Xiya Road, Free Trade Zone, Shanghai, China
Pentair Water Solutions (Hangzhou) Company, Ltd.	China	100%	Manufacturing	151 Jianye Road, Binjiang District, Hangzhou, China
Pentair Water Spain, S.L.	Spain	100%	Manufacturing	Avenida Diagonal Nr. 468, 4C, 08006, Barcelona, Spain
Pentair Water Treatment (OH) Company	United States	100%	Holding Company	220 Park Drive, Chardon OH 44024-1091, United States
Pentair Water Treatment Company	United States	100%	Holding Company	1385 Bishops Drive, Brookfield WI 53045, United States
Pentair Water Treatment Private Limited	India	100%	Manufacturing	L 52-55,Verna Industrial Estate, Phase II, Verna Salcette, Goa, 403 722, India
Pentair Water, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pentair Water-Mexico, S. de R.L. de C.V.	Mexico	100%	Manufacturing	Av de los Nogales Lote 6, AL 11 Manzana 5 SN, Parque Industrial, Villa Florida, Tamaulipas, C.P. 88730, Mexico
Pentair, Inc.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Penwald Insurance Company	United States	100%	Insurance	192 S. Main Street, Barre VT 05641, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
PES Pty Ltd	Australia	100%	Holding Company	1-21 Monash Drive, Dandenong South , Victoria 3175, Australia
PFAM, Inc.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pleatco Mexican Holding Company, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Pleatco Mexicana, S. De R.L. De C.V.	Mexico	100%	Manufacturing	El Dorado No. 15, Int. 1, Mexicali, Baja California, 21383, Mexico
Pleatco, LLC	United States	100%	Manufacturing	11201 Ampere Ct., Louisville KY 40299, United States
Plymouth Products, Inc.	United States	100%	Holding Company	13845 Bishops Drive, Brookfield WI 53045, United States
Procam Controls, Inc.	United States	100%	Manufacturing	2605 Technology Drive, Suite 300, Plano TX 75074, United States
PTG Accessories Corp.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Seneca Enterprises Co.	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Shupeco, LLC	United States	100%	Manufacturing	3721 Collins Ln, Louisville, KY 40245
Sta-Rite Industries, LLC	United States	100%	Manufacturing	293 Wright Street, Delavan WI 53115, United States
Surface Logix LLC	United States	0.03%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Tupelo Real Estate, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
TVS Filters Acquisition, LLC	United States	100%	Manufacturing	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
U.S. Milton Holdings, Inc.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Union Engineering (NingBo) Co., Ltd.	China	100%	Manufacturing	188# Donghui Road Nordic Industrial Park, Zhenhai District, Ningbo Zhejiang, China, 315221, China
Union Engineering A/S	Denmark	100%	Manufacturing	Snaremosevej 27, Erritsø, 7000, Fredericia, Denmark
Union Engineering Holding LLC	United States	100%	Holding Company	1 Industry Drive, Palm Coast FL 32137, United States
Union Engineering Latam Ltda	Brazil	99%	Manufacturing	Rodovia Curitiba Ponta Grossa BR 277, número 6047, Bairro Cidade Industrial, cidade de Curitiba, Estado do Paraná, Paraná, CEP 82305-200, Brazil
Union Engineering North America LLC	United States	100%	Manufacturing	4301 W. Davis Street, Conroe TX 77304, United States
Urban Organics Pentair Group, LLC	United States	100%	Holding Company	700 Minnehaha Avenue East, St. Paul MN 55106, United States

Company name	Country	Percentage owned	Business purpose	Registered office address
Urban Organics Schmidt Real Estate Group, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Urban Organics St. Paul, LLC	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Voltea Ltd.	United Kingdom	1.69%	Manufacturing	5th Floor, 6 St. Andrew Street, London, EC4A 3AE, United Kingdom
Water Ingenuity Holdings Corp.	United States	100%	Holding Company	5500 Wayzata Blvd., Suite 900, Golden Valley MN 55416-1261, United States
Webster Electric Company, LLC	United States	100%	Manufacturing	293 Wright Street, Delavan WI 53115, United States
X-Flow B.V.	Netherlands	100%	Manufacturing	Marssteden 50, 7547 TC, Enschede, Netherlands

28. Post Balance Sheet Events

There were no material post balance sheet events that have occurred after December 31, 2022, but before February 21, 2023, the date the financial statements were issued.

PENTAIR PLC

Company Financial Statements
For the financial year ended 31 December 2022

Pentair plc
Company Balance Sheet

In millions	Note	31 December 2022	31 December 2021
Financial assets			
Shares in group undertakings	3	$ 7,401	$ 8,846
Current assets			
Prepaid expenses		2	3
Amounts due from subsidiaries		154	15
Other debtors		13	12
Total current assets		169	30
Creditors (amounts falling due within one year)			
Amounts owed to group undertakings		1	5
Other creditors		9	8
Net current assets		159	17
Total assets less current liabilities		7,560	8,863
Creditors (amounts falling after more than one year)			
Other creditors		23	23
Net assets		$ 7,537	$ 8,840
Capital and reserves			
Called-up share capital presented as equity		$ 2	$ 2
Share premium account		190	186
Profit and loss account		7,111	8,443
Other reserves		234	209
Total shareholders' funds		$ 7,537	$ 8,840

In accordance with Section 304(2) of the Companies Act 2014, the Company is availing itself of the exemption from presenting and filing its individual profit and loss account. Pentair plc's loss for the year ended December 31, 2022 and Pentair plc's profit for the year ended December 31, 2021 as determined in accordance with FRS 102, the Financial Reporting Standard applicable in the U.K. and Ireland, was $1,137 million and $281 million, respectively.

Approved by the Board of Directors on 21 February 2023 and signed on its behalf by:

/s/ John L. Stauch
Director

/s/ Glynis A. Bryan
Director

Pentair plc
Company Statement of Changes in Equity

In millions	Called up & fully paid share capital	Share premium reserve	Profit and loss account	Other reserves	Total
Balance - December 31, 2020	$ 2	$ 156	$ 8,453	$ 179	$ 8,790
Profit for the financial year	—	—	281	—	281
Repurchase of shares	—	—	(150)	—	(150)
Share-based compensation	—	—	—	30	30
Exercise of options, net of shares tendered for payment	—	30	—	—	30
Shares surrendered by employees for taxes	—	—	(8)	—	(8)
Dividends paid	—	—	(133)	—	(133)
Balance - 31 December 2021	$ 2	$ 186	$ 8,443	$ 209	$ 8,840
Loss for the financial year	—	—	(1,137)	—	(1,137)
Repurchase of shares	—	—	(50)	—	(50)
Share-based compensation	—	—	—	25	25
Exercise of options, net of shares tendered for payment	—	4	—	—	4
Shares surrendered by employees for taxes	—	—	(6)	—	(6)
Dividends paid	—	—	(139)	—	(139)
Balance - 31 December 2022	$ 2	$ 190	$ 7,111	$ 234	$ 7,537

On 8 December 2020, the Board of Directors declared a quarterly cash dividend of $0.20 per share that was paid on 5 February 2021 to shareholders of record at the close of business on 22 January 2021. As this dividend was not approved by shareholders as of 31 December 2020, it did not meet the criteria to be provided for as a liability in the Company Balance Sheet. The amount paid on 5 February 2021 related to this dividend was $33 million.

On 7 December 2021, the Board of Directors declared a quarterly cash dividend of $0.21 per share that was paid on 4 February 2022 to shareholders of record at the close of business on 21 January 2022. As this dividend was not approved by shareholders as of 31 December 2021, it did not meet the criteria to be provided for as a liability in the Company Balance Sheet. The amount paid on 4 February 2022 related to this dividend was $35 million.

On 12 December 2022, the Board of Directors declared a quarterly cash dividend of $0.22 per share that was paid on 3 February 2023 to shareholders of record at the close of business on 20 January 2023. As this dividend was not approved by shareholders as of 31 December 2022, it did not meet the criteria to be provided for as a liability in the Company Balance Sheet. The amount paid on 3 February 2023 related to this dividend was $36 million.

Note 12 of the consolidated Group financial statements provides additional details regarding Group shareholders' funds.

1. Basis of Presentation and Summary of Significant Accounting Policies

General information and basis of accounting

The books and accounting records of Pentair plc are maintained at the Company's executive office at Regal House, 70 London Road, Twickenham, London, TW13QS U.K. and are readily accessible at Pentair plc's registered address of Arthur Cox, 10 Earlsfort Terrace, Dublin 2, D02 T380 Ireland. Pentair plc (the "Company," "we," "us," or "our") is a company incorporated in Ireland under the Companies Act 2014. The Company's registration number is 536025. The nature of the Company's operations and its principal activities are set out in the directors' report on page 1.

The parent company financial statements of the Company for the financial years ended 31 December 2022 and 2021 have been prepared in accordance with generally accepted accounting practice in Ireland ("Irish GAAP"), comprising the Financial Reporting Standards 102 ("FRS 102"), the Financial Reporting Framework applicable in the U.K. and Ireland ("relevant financial reporting framework"), together with the Companies Act 2014. These financial statements are prepared under Irish GAAP as they are prepared specifically to comply with Irish legislative requirements and represent the results and financial position of the Company, which is incorporated and registered in Ireland.

Pentair plc meets the definition of a qualifying entity under FRS 102 and has therefore taken advantage of the disclosure exemptions available to it in respect of its parent company financial statements. The consolidated financial statements of Pentair plc can be found on pages 1-77. Exemptions have been taken in these separate company financial statements in relation to share-based payments, financial instruments, presentation of a cash flow statement and remuneration of key management personnel.

Functional currency

Items included in these financial statements are measured using the currency of the primary economic environment in which Pentair plc operates (the "functional currency"). The financial statements are presented in United States ("U.S.") dollars, which is the Company's functional and presentation currency.

Currency translation

Gains and losses resulting from foreign currency transactions are included in profit and loss.

Investments in group undertakings

Pentair plc's investment in Pentair Investments Switzerland GmbH ("PISG") was recorded at fair value on 3 June 2014, the date Pentair plc acquired 100% of the ordinary share capital of PISG as part of the Merger (defined in Note 2 below). The fair value was based on the Company's market capitalization at that date. This initial valuation became Pentair plc's cost basis for its investment in PISG. In June 2020, the PISG investment in Pentair Finance S.a.r.l ("PFSA") was distributed to Pentair plc via a distribution in kind and Pentair plc became a 100% owner of the ordinary share capital of PFSA.

Investments in group undertakings are measured at cost less impairment. The investment is tested for impairment if circumstances or indicators suggest that impairment may exist. An impairment loss occurs when the carrying amount of an asset exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its value in use.

Dividends

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. We paid dividends in 2022 of $139 million, or $0.84 per share, compared with $133 million, or $0.80 per share in 2021.

Share-based compensation

The Company applies the requirements of FRS 102 Section 26 Share-Based Payment in accounting for all share-based compensation; consequently, the measurement and recognition of compensation expense for all share-based payment awards made to employees and directors is based on estimated fair values.

The Company issues equity-settled share options appreciation rights to certain employees of its subsidiaries. Equity-settled share-based payment transactions are measured at fair value (excluding the effect of non-market-based vesting conditions) at the date of grant. Where this expense is not recharged by the Company to its subsidiaries, it is accounted for as a capital contribution included in Shares in group undertakings as reflected in Note 3. See Note 13 of the Group Financial Statements for further discussion of share-based compensation. Where the Company pays the related employee tax liability on share options issued, the share option balance outstanding to the employee is reduced by a similar value.

Going concern

The directors have a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Thus they continue to adopt the going concern basis of accounting in preparing the annual financial statements.

Critical accounting judgments and key sources of estimation uncertainty

In the application of the Company's accounting policies, which are described above, 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 recognized 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. The main area of accounting judgment and estimate in the Company relates to the carrying value of shares in group undertakings where the Company is required to assess any potential indicators of impairment. The key source of estimation in the carrying value of group undertakings relate to the estimation of the share based payment charge which forms part of the carrying value of group undertakings and involves various inputs in calculating the appropriate share based payment charge.

2. History of the Company

Pentair plc was incorporated in Ireland, as a public limited company, on 28 November 2013 in order to assist the change of the Company's jurisdiction of incorporation from Switzerland to Ireland. The former group holding company, Pentair Ltd., was incorporated in Switzerland and was listed on the New York Stock Exchange ("NYSE"). Pentair Ltd. became the Group holding company on 28 September 2012, subsequent to a spin-off of Pentair Ltd. from its then parent, Tyco International Ltd. ("Tyco") and a reverse acquisition involving Pentair, Inc. (a Minnesota corporation that was listed on the NYSE and predecessor to Pentair Ltd.).

On 10 December 2013, the Board of Directors of Pentair Ltd. approved a merger agreement (the "Merger Agreement") between the Company and Pentair Ltd. (the "Merger"). At an extraordinary meeting of shareholders of Pentair Ltd. held on 20 May 2014, Pentair Ltd. shareholders voted to approve the Merger Agreement. The Merger was completed on 3 June 2014, following entry of the Merger in the Schaffhausen Cantonal register in Switzerland and the jurisdiction of organization of the Pentair group changed from Switzerland to Ireland.

The reorganization was effected by: (i) Pentair Ltd. transferring certain assets, liabilities and agreements by way of a contribution to the equity of PISG, a newly-formed wholly-owned, direct subsidiary of Pentair Ltd. organized under the laws of Switzerland (the "Contribution"), followed by; (ii) the Merger, with the Company surviving as the publicly-traded parent entity and successor to Pentair Ltd.

Accordingly, all of the outstanding common shares of Pentair Ltd. were canceled and all holders of such shares were issued Pentair plc ordinary shares on a one-for-one basis. Shares of the Irish company, Pentair plc, began trading on the NYSE on 3 June 2014 under the symbol "PNR," the same symbol under which Pentair Ltd. shares were previously traded. Prior to 3 June 2014, Pentair plc had no substantive operating activity.

3. Shares in Group Undertakings

Pentair plc owns 100% of the ordinary share capital of PISG. The principal activity of PISG is an investment holding company. As discussed in Note 1, Pentair plc's investment in PISG was recorded at fair value on the date of the reorganization based on the Company's market capitalization at that date. This initial valuation became Pentair plc's cost basis in PISG. In June 2020, the PISG ownership of the ordinary share capital of PFSA was distributed to Pentair plc via a distribution in kind and Pentair plc became a 100% owner of the ordinary share capital of PFSA.

The table below presents a roll-forward of activity during the financial years ended 31 December 2022 and 2021 within the investment in subsidiary account.

In millions		2022
At 31 December 2020, at cost less impairment	$	8,816
Investment in subsidiary undertakings		30
At 31 December 2021, at cost less impairment		8,846
Return of capital from PFSA		(254)
Investment in subsidiary undertakings		25
Impairment loss		(1,216)
At 31 December 2022, at cost less impairment	$	7,401

The $25 million and $30 million of investments in subsidiary undertakings in the financial years ended 31 December 2022 and 2021, primarily represents equity-settled share-based payment transactions not recharged to subsidiaries and other capital contributions.

The impairment loss of $1.2 billion arose primarily due to the decline in market capitalization for the Company during 2022. No impairment charge was recorded as part of our annual impairment test in 2021.

In 2022, PFSA paid dividends of $350 million to Pentair plc. Of this, $254 million has been accounted for as a return of capital and $96 million has been recognized as dividend income by the Company.

4. Guarantees and Contingencies

Indemnifications of officers and directors

The Company has indemnification agreements with the members of its board of directors to indemnify them to the extent permitted by law against any and all liabilities, costs, expenses, amounts paid in settlement and damages incurred by any director as a result of any lawsuit or any judicial, administrative or investigative proceeding brought against such director as a result of their service as a member of the Company's board of directors.

Debt

As of 31 December 2022, PFSA has a $900 million unsecured revolving credit facility expiring in 2026, a $200 million term loan expiring in 2024 and a $1,000 million term loan expiring in 2027. In addition, as of 31 December 2022, PFSA has $819 million aggregate principal amount of public notes outstanding which comprised of the following: $19 million of 4.65% notes due 2025, $400 million of 4.50% notes due 2029 and $400 million of 5.90% notes due 2032.

The credit facility and the public notes of PFSA are fully and unconditionally guaranteed joint and severally on a senior unsecured basis by Pentair plc.

Guarantees

In connection with the disposition of our businesses or product lines, we may agree to indemnify purchasers for various potential liabilities relating to the sold business, such as pre-closing tax, product liability, warranty, environmental, or other obligations. The subject matter, amounts and duration of any such indemnification obligations vary for each type of liability indemnified and may vary widely from transaction to transaction.

Generally, the maximum obligation under such indemnifications is not explicitly stated and as a result, the overall amount of these obligations cannot be reasonably estimated. Historically, we have not made significant payments for these indemnifications. We believe that if we were to incur a loss in any of these matters, the loss would not have a material effect on our financial position, results of operations or cash flows.

We recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. In connection with the disposition of the Valves & Controls business, we agreed to indemnify Emerson Electric Co. for certain pre-closing tax liabilities. We have recorded a liability representing the fair value of our expected future obligation for this matter.

In the ordinary course of business, we are required to commit to bonds, letters of credit and bank guarantees that require payment to our customers for any non-performance. The outstanding face value of these instruments fluctuates with the value of our projects in process and in our backlog. In addition, we issue financial stand-by letters of credit primarily to secure our performance to third parties under self-insurance programs.

As of 31 December 2022 and 2021, the outstanding value of bonds, letters of credit and bank guarantees totaled $100 million and $105 million, respectively.

In addition, we provide support in the form of financial and/or performance guarantees to various subsidiary operating entities. While some of these performance guarantees have no limit, the value of these guarantees that are capped was approximately $2.9 billion and $1.6 billion as of 31 December 2022 and 2021, respectively. Refer to Note 15 of the consolidated Group financial statements for further discussion.

5. Called up Share Capital Presented as Equity

The authorized share capital of the Company is 426.0 million ordinary shares of $0.01 par value.

Called up share capital activity of the Company for the financial years ended 31 December 2022 and 2021 was as follows:

	Ordinary Shares of $0.01 par value
Balance - December 31, 2020	166,063,551
Repurchase of shares	(2,082,703)
Exercise of options, net of shares tendered for payment	865,310
Ordinary shares of $0.01 par value issued for share-based compensation activity	336,345
Shares surrendered by employees to pay taxes	(83,656)
Balance - 31 December 2021	165,098,847
Repurchase of shares	(956,857)
Exercise of options, net of shares tendered for payment	93,605
Ordinary shares of $0.01 par value issued for share-based compensation activity	376,564
Shares surrendered by employees to pay taxes	(69,216)
Balance - 31 December 2022	164,542,943

Share repurchases

On 8 May 2018, the Board of Directors authorized the repurchase of our ordinary shares up to a maximum dollar limit of $750.0 million (the “2018 Authorization”). The 2018 Authorization expired on 31 May 2021. On 8 December 2020, the Board of Directors authorized the repurchase of ordinary shares up to a maximum dollar limit of $750.0 million (the “2020 Authorization”). The 2020 Authorization expires on 31 December 2025. The 2020 Authorization supplemented the 2018 Authorization.

During the year ended December 31, 2021, we repurchased 2.1 million of our ordinary shares, with a $0.01 par value per share, for $150.0 million of which 0.8 million shares, or $50.0 million, and 1.3 million shares, or $100.0 million, were repurchased pursuant to the 2018 Authorization and 2020 Authorization, respectively.

During the year ended December 31, 2022, we repurchased 1.0 million of our ordinary shares, with a $0.01 par value per share, for $50.0 million under the 2020 Authorization. As of December 31, 2022, we had $600.0 million available for share repurchases under the 2020 Authorization.

The repurchase and subsequent cancellation of our ordinary shares under these authorizations from the Board of Directors from time to time, based on market conditions, allow management to return excess cash to enhance shareholder value.

6. Profit Attributable to Pentair plc

In accordance with Section 304(2) of the Companies Act 2014, the Company is availing itself of the exemption from presenting and filing its individual profit and loss account. Pentair plc’s loss for the year ended December 31, 2022 and profit for the year ended December 31, 2021 as determined in accordance with FRS 102, the Financial Reporting Standard applicable in the U.K. and Ireland, was $1,137 million and $281 million, respectively.

7. Directors’ Remuneration

Note 24 of the consolidated Group financial statements provides details of directors’ remuneration borne by the Company.

8. Auditor's Remuneration

Auditor's remuneration for the financial years ended 31 December 2022 and 2021 was as follows:

In millions	**2022**	**2021**
Audit of the Company financial statements	$ —	$ —
Other assurance services	0.2	0.2
Tax advisory services	—	—
Other non-audit services	—	—
Total auditor's remuneration	$ 0.2	$ 0.2

Note 25 of the consolidated Group financial statements provides additional details of fees paid by the Group.

9. Related Party Transactions

The Company has availed of the exemption provided in FRS 102 Section 33, Related Party Disclosures, from disclosing transactions with subsidiary undertakings, 100% of whose voting rights are controlled within the Group. Consequently, the financial statements do not contain disclosures of such transactions with entities in the Pentair plc group.

The directors have determined that key management are the director group. Remuneration related to key management personnel is disclosed in Note 24 of the consolidated Group financial statements.

10. Subsidiary Undertakings

Pentair plc owns Pentair Finance S.à.r.l. and all of the underlying subsidiaries. All of Pentair Finance S.à.r.l's subsidiaries are included in Note 27 of the consolidated Group financial statements. Pentair plc separately owns Pentair Investments Switzerland GmbH.

11. Post Balance Sheet Events

There were no material post balance sheet events that have occurred after December 31, 2022, but before February 21, 2023, the date the financial statements were issued.