



WÄRTSILÄ

Wärtsilä Corporation Annual Report 2019

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This is Wärtsilä

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CEO review

The year 2019 was characterised by a difficult demand environment and weaker than anticipated financial performance. Despite the increase in marine equipment sales and service volumes, energy equipment deliveries declined due to external factors affecting the energy market. While this did impact our operating result, the primary setback was the cost overruns we experienced in a handful of complex marine and energy projects, which were caused by inaccurate assumptions in cost estimates, insufficient risk identification, and supplier related challenges.

I am convinced that our project management capabilities will soon be re-established at their previous level of excellence. To achieve this, and to prevent a re-occurrence in future projects of the issues we have faced in 2019, we have undertaken a number of actions to improve the quality of our project execution and to ensure better upfront identification of risks and opportunities. I am confident that this will enable us to live up to our reputation for providing high quality and value enhancing solutions, coupled with superior project management capabilities.

Order intake affected by difficult market conditions

Vessel contracting fell short of initial forecasts, largely due to concerns related to the implications of geopolitical developments on seaborne trade. Furthermore, there was a decline in scrubber orders from the exceptionally high levels of the previous year. This was a result of uncertainty related to the price and availability of bunker fuels. Considering these factors, we can be pleased with the level of equipment orders received in the Marine Business. Our extensive market exposure and broad offering of solutions have once again allowed us to capture opportunities in those segments where activity has been more robust, such as cruise ships and gas carriers.

Energy policies are being revised to promote sustainable development and to combat climate change. In order to achieve ambitious decarbonisation targets, utilities globally are updating their investment strategies. This, in combination with an unfavourable macroeconomic environment, has caused customers to defer investment decisions. Because of this, the demand for new gas and liquid fuelled power generation capacity declined significantly during the year, creating a background of uncertainty for our Energy Business. Although equipment orders in the Energy Business failed to meet our expectations, energy service orders developed well, as did the orders for energy storage and optimisation solutions.

Strengthening the focus on lifecycle solutions

While 2019 did not prove to be an easy year for Wärtsilä, the operational challenges we experienced masked positive developments on many fronts; most notably, the return to growth in services following two years of stable development. I am particularly pleased to highlight the increased order intake for service agreements, which included the Energy Business' largest ever long-term operation and maintenance agreement. This was signed with Energia del Pacifico for a power plant under construction in El Salvador.

The importance of these agreements to our strategy is emphasised by the fact that we renewed our organisational structure at the beginning of 2019, forming it around two businesses integrating both equipment and services. A central aim of this change is to better enable the tailoring of our lifecycle solutions to specific market needs. I am pleased to note that we have realised certain benefits of this reorganisation, for example through improved cooperation internally with regards to developing and executing our full lifecycle offering. I strongly believe that this provides a foundation for strengthening lifecycle partnerships with our customers, which in turn will support progression towards our long-term target of profitable growth.

Putting our Smart Marine and Smart Energy visions into action

As a result of the need to significantly raise efficiency levels and comply with tightening environmental legislation, there is a rapid transformation taking place in both the marine and energy sectors. Wärtsilä has taken a leading position in enabling this transformation process through its Smart Marine and Smart Energy visions, where the latest technologies are being developed and employed to meet the evolving needs in both these end markets.

Several key orders were received during the year that validate the commercial feasibility of our Smart Marine vision. The order to supply Anglo-Eastern's fleet of more than 600 vessels with Wärtsilä's Fleet Optimisation Solution (FOS)

illustrates that the shipping industry is increasingly looking at leveraging the latest digital solutions to maximise efficiency and performance. FOS enables voyage planning, speed management, weather routing, ship-to-shore reporting, and fleet performance management to reduce fuel consumption. Furthermore, in the field of autonomous vessels, following last year's successful testing, we received our first order for SmartDock during 2019, making it the world's first commercially available auto-docking solution.

In the energy market, an order we received from Cambodia is an excellent example of the role we can play in providing fast-starting, flexible solutions that enable the integration of increasing levels of power from renewable sources, while simultaneously securing power system reliability. In addition to adding much needed capacity to the grid, the plant will provide the balancing flexibility that is essential when adding fluctuating supplies of solar and wind to the power system. Another example of how our solutions can support the transition to carbon-free resources is the 100 MW/100 MWh total capacity energy storage project awarded to us in South East Asia. The energy storage system, which includes our advanced energy management software platform GEMS, will support the region in reducing its reliance on fossil fuels. These orders represent a clear indication of the steps we have taken in realising our vision to lead the industry's transformation towards a 100% renewable future.

New technologies based on innovations and collaboration

Investing in technological leadership is vital for ensuring the competitiveness of Wärtsilä's product portfolio and for securing a leading position in sustainable innovation. The focus of our R&D activities, the cost of which amounted to 3.2% of sales in 2019, is on areas such as efficiency improvement, fuel flexibility, and the reduction of environmental impacts. While we remain dedicated to developing the core technologies within our portfolio, as illustrated by the two new engine additions to the Wärtsilä 31 family, our research and development activities have increasingly turned to developing new digital solutions, with the emphasis on optimising performance through data insights. Examples of some of the advances made during the year include a new online platform that allows our customers to manage their installations more efficiently, and the introduction of Expert Insight, which leverages artificial intelligence and advanced diagnostics to remotely monitor equipment and systems in real time.

Collaboration with industry stakeholders is an essential element in the development of technologies needed to meet the changing market requirements. Among the year's partnership projects were agreements aimed at accelerating the development and commercialisation of renewable fuels in the energy markets. In the marine sector, our project to develop an autonomous harbour tug, IntelliTug, is an excellent example of the role collaboration plays within our innovation activities. Developed in collaboration with PSA Marine, the project took a decisive leap from drawing board to practical application during the year. Following the successful installation of a first-of-its-kind dynamic positioning system onboard the harbour tug 'PSA Polaris', trials are now being carried out in the Port of Singapore under real-world conditions.

In the field of energy, an important example of our partnership agreements are those focusing on exploring the role that Power-to-X, namely the generation of synthetic fuel from excess CO₂ emissions, plays in a carbon-neutral future. Such projects include providing funding to start-ups, as well as collaborating with academia and companies that are developing innovative technologies to speed the development of renewable fuels and capture opportunities to market them globally.

Collaboration is also extremely important to the success of the Smart Technology Hub, our new centre of research, product development and production being built in Vaasa, Finland. As the project progressed from planning to implementation in 2019, the selection of the first partners for the Smart Partner Campus took place. This is where research and product development activities can be carried out together with Wärtsilä's customers and suppliers, start-ups, and universities.

A consistent emphasis on responsible business conduct

While our strategy places a strong emphasis on reducing harmful environmental impact, social considerations are of equal importance to us. We always intend to contribute towards the well-being of society and to foster an inclusive corporate culture by respecting diversity, providing equal opportunities, and demonstrating high ethical standards. In this context, we are committed to supporting the UN Global Compact and its principles with respect to human rights, labour, the environment, and anti-corruption. Another clear priority is ensuring safe working conditions and strengthening safety leadership within the company. The increase in the number of safety walks carried out by

management, and the adherence to near-miss reporting, show that safety is taken seriously throughout the organisation. Furthermore, the decline in our lost time injury frequency shows that we are moving in the right direction.

Short-term challenges, longer-term optimism

The business environment is expected to continue to be challenging during the upcoming year. For this reason, we remain cautious on the demand outlook. Our focus will be on improving operational efficiency, with the aim of mitigating, to the extent possible, the near-term performance headwinds related to pricing and mix. We have also taken steps to simplify our portfolio in order to strengthen the focus on core businesses. This entails moving non-core activities into a separate business unit, with the aim of accelerating their performance and unlocking value.

Looking further ahead, we have a solid basis for future performance thanks to our sizeable order book and service opportunities arising from our large installed base. Furthermore, we have the means and the solutions, through our broad offering of flexible technologies and strong in-house capabilities, to enable growth in the adoption of renewable energy sources, and to contribute to the decarbonisation of the maritime industry.

I would like to take this opportunity to thank our shareholders for their continued support. To our customers, I say thank you for your trust in our solutions and services, and finally yet importantly, I want to thank our personnel for their continued dedication and for putting us firmly on the path towards achievement of our common goals.



Jaakko Eskola
President & CEO

Key figures

MEUR	2019	10-12/2019	7-9/2019	4-6/2019	1-3/2019	2018
Net sales	5 170	1 684	1 118	1 217	1 151	5 174
Marine	3 330	1 020	776	801	733	2 815
Energy	1 840	664	342	416	418	2 359
Depreciation, amortisation and impairment	-180	-39	-58	-42	-41	-130
Comparable operating result ¹	457	202	39	113	102	577
Comparable operating result ¹ , %	8.8	12.0	3.5	9.3	8.9	11.2
Profit before taxes	315	153	-0	83	78	502
Earnings per share, EUR	0.37	0.17	-0.01	0.11	0.10	0.65
Order intake	5 327	1 555	979	1 377	1 416	6 307

MEUR	2019	31.12.2019	30.9.2019	30.6.2019	31.3.2019	2018
Balance sheet total	6 398	6 398	6 360	6 198	6 337	6 059
Interest-bearing liabilities, gross ²	1 096	1 096	1 365	1 132	1 162	823
Cash and cash equivalents	369	369	374	383	501	487
ROI, %	11.5	11.5	12.8	17.2	18.2	18.1
Gearing ²	0.30	0.30	0.44	0.33	0.29	0.14
Order book, end of period	5 878	5 878	6 294	6 470	6 330	6 166
Year-end market capitalisation	5 828	5 828	6 080	7 547	8 512	8 222
Personnel, number at end of period	18 795	18 795	19 018	19 239	19 225	19 294

¹ Figures exclude items affecting comparability.

² The increase in net interest-bearing debt is partly related to the inclusion of lease liabilities on balance sheet as a result of the new IFRS 16 standard.

Sustainability highlights



11.2.

Wärtsilä and Aalto University signed a partnership agreement to broaden cooperation on challenges related to climate change, scarcity of natural resources and digitalisation.



6.3.

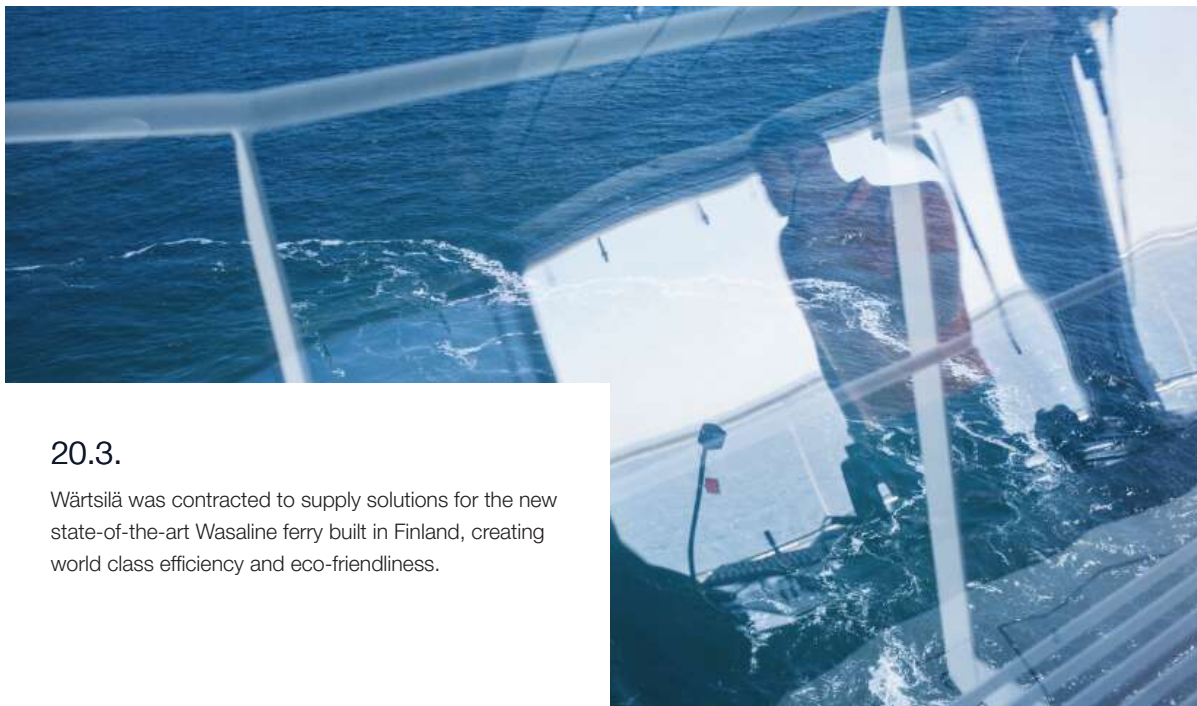
Wärtsilä completed the installation and operational staff training for its Vessel Traffic Service solutions project to increase efficiency of two Portuguese ports.





8.3.

Wärtsilä was contracted to supply dual technology option for Ballast Water Management Systems for Eletson's full fleet of 23 carriers.



20.3.

Wärtsilä was contracted to supply solutions for the new state-of-the-art Wasaline ferry built in Finland, creating world class efficiency and eco-friendliness.



16.4.

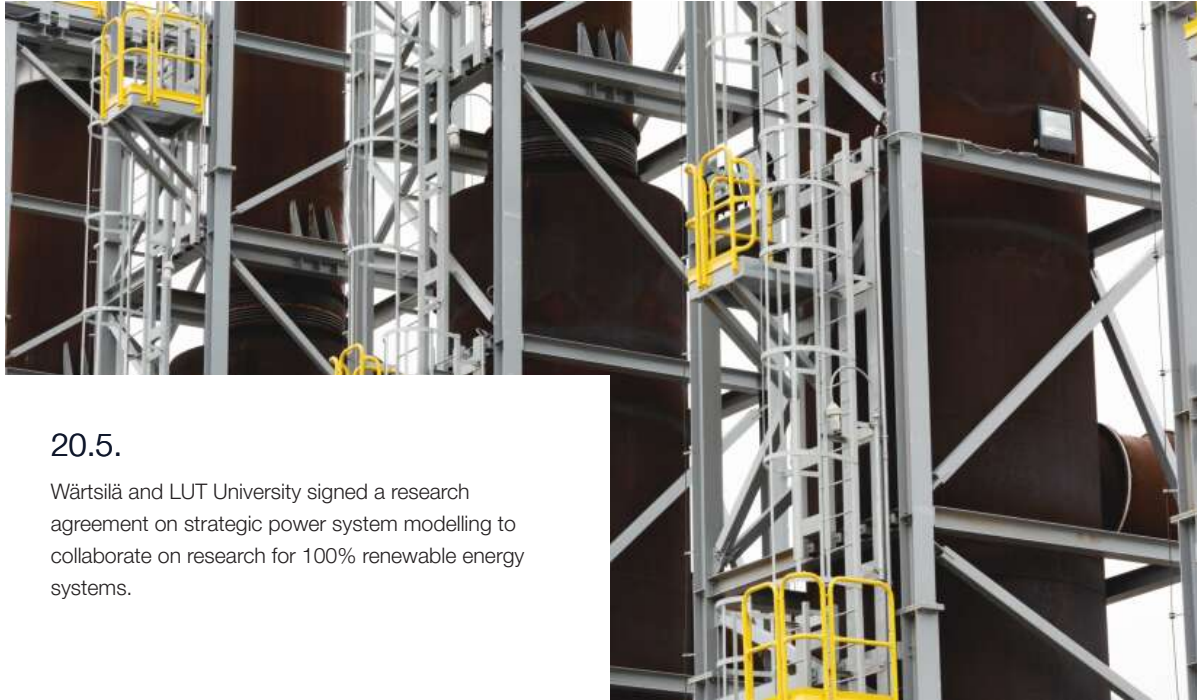
Wärtsilä launched the Engine+ Hybrid Energy solution in support of storage and renewable energy adoption.



7.5.

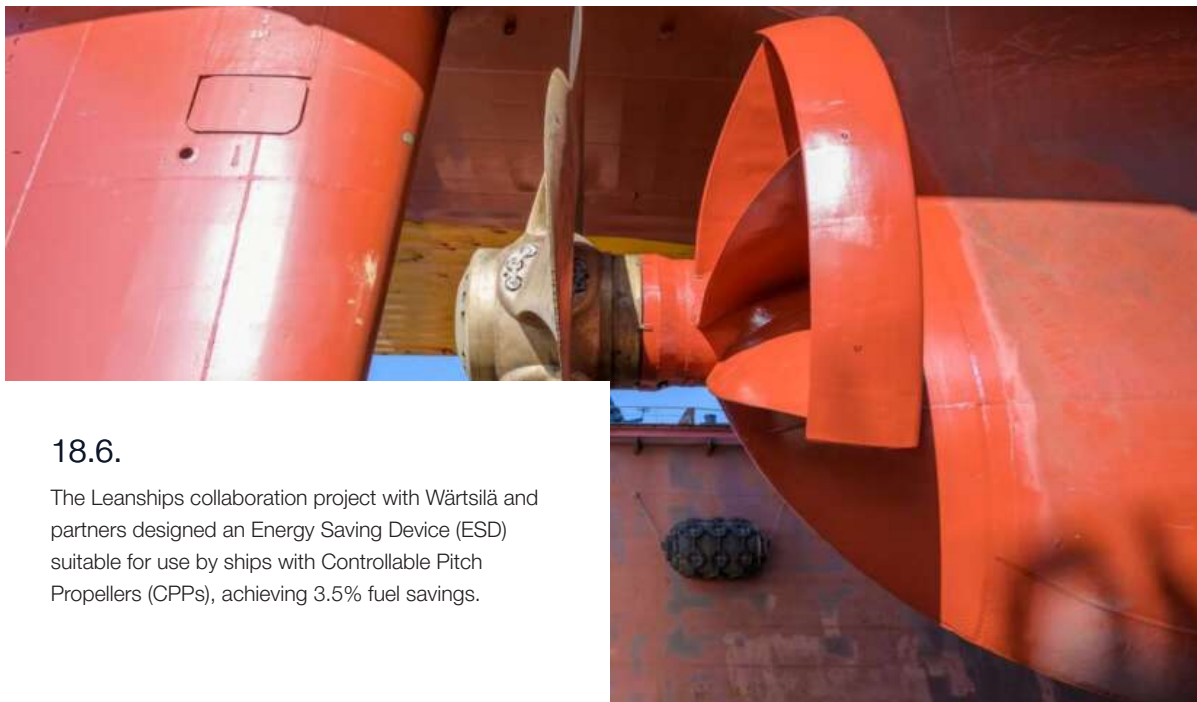
Wärtsilä emissions reducing solutions were recognised with White Snow, Clean Air award. The award is in recognition of Wärtsilä's solutions that reduce emissions from gas flaring at oil drilling and production sites.





20.5.

Wärtsilä and LUT University signed a research agreement on strategic power system modelling to collaborate on research for 100% renewable energy systems.



18.6.

The Leanships collaboration project with Wärtsilä and partners designed an Energy Saving Device (ESD) suitable for use by ships with Controllable Pitch Propellers (CPPs), achieving 3.5% fuel savings.



25.7.

Wärtsilä signed a 100 MW/100 MWh energy storage system project deal in South East Asia.



3.9.

The Wärtsilä 31DF engine, featuring unprecedented efficiency with fuel and operational flexibility, made entry to the energy industry.



23.9.

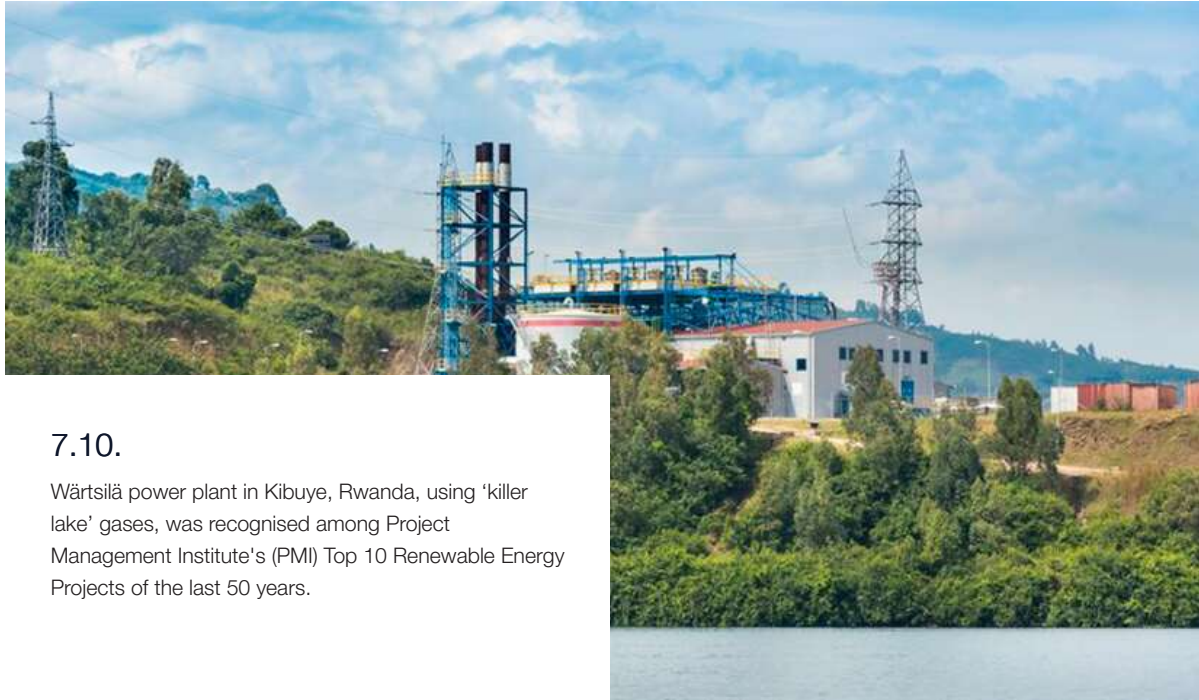
Wärtsilä joined "Getting to Zero 2030 Coalition", where along with 74 organisations Wärtsilä committed to collaboration to make commercially-viable zero emission vessels a reality by 2030.



26.9.

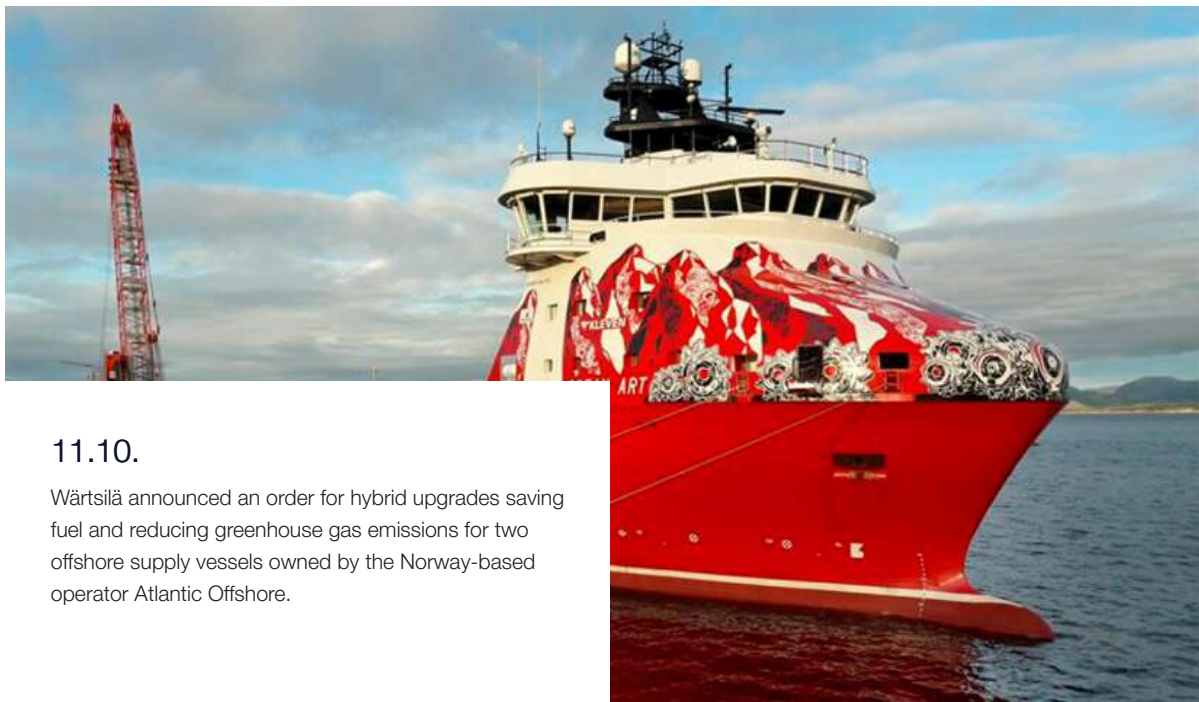
Wärtsilä and Q Power signed a strategic cooperation agreement to support the development of renewable fuels.





7.10.

Wärtsilä power plant in Kibuye, Rwanda, using 'killer lake' gases, was recognised among Project Management Institute's (PMI) Top 10 Renewable Energy Projects of the last 50 years.



11.10.

Wärtsilä announced an order for hybrid upgrades saving fuel and reducing greenhouse gas emissions for two offshore supply vessels owned by the Norway-based operator Atlantic Offshore.



14.11.

Wärtsilä and PSA Marine agreed to collaborate in creation of smart technologies for the marine sector to achieve clean energy shipping.



2.12.

Wärtsilä was contracted to provide a full energy storage solution for integrating renewable energy in one of the largest power hybrid projects at the off-grid Fekola Mine in Mali.

Strategy

Wärtsilä's purpose is to enable sustainable societies with smart technology. The demand for clean and flexible energy and the need for efficient and safe transportation are increasingly affecting the way that customers operate. This forms the basis for Wärtsilä's Smart Marine and Smart Energy visions.

Wärtsilä's profitable growth ambitions are supported by its strong presence in key markets and a superior global service network. An integrated portfolio of services, systems, and products that covers customer needs throughout the full lifecycle positions Wärtsilä well to respond to the demand for energy efficient and innovative solutions. Emphasis is given to optimising performance through upgrades, modernisations, fuel conversions, and safety solutions, and to using data analytics and artificial intelligence to support customer business decisions. The utilisation of connectivity and smart technologies plays a key role in the optimisation of assets and in providing strategic input to customers in order to enhance their business growth. Asset management will drive future growth in lifecycle solutions and enable new "as-a-service" business models.

Wärtsilä's digital transformation provides enhanced customer value through an increased focus on collaboration and knowledge sharing. With its flexible production and supply chain management, Wärtsilä constantly seeks new ways to maintain high quality and cost efficiency - often in co-operation with customers and leading industrial partners. Investments in research and development, and specifically in digitalisation, create a strong foundation for securing and strengthening the company's position at the forefront of market innovation.

This innovative culture, together with a constant emphasis on safety, diversity, and high ethical standards, attracts skilled and committed people and creates the basis for a high performing organisation. The focus on operational excellence ensures that Wärtsilä is a company easy to do business with and drives increased productivity and efficiencies for its customers.

Smart Marine

Wärtsilä's aim is to lead the industry's transformation towards a Smart Marine Ecosystem. Building on the sound foundation of being a leading provider of innovative products, integrated solutions, and lifecycle services to the marine and oil & gas industries, we aim to unlock new sources of customer value through connectivity, digitalisation, and use of smart technologies.

The maritime industry faces the challenge of realising decarbonisation by the end of the century. In order to do so, the industry will have to collaborate to introduce new technologies, legislations, and fuels (e.g. bioLNG, synthetic gases, hydrogen, ammonia). Industry players are faced with major sources of inefficiency that impose a significantly negative impact on business operations, environmental performance, and profitability. The three most notable of these are overcapacity, inadequate port-to-port fuel efficiency, and time wasted waiting when entering ports and other high traffic areas. Eliminating these inefficiencies forms the basis of Wärtsilä's marine strategy towards decarbonisation and ecosystem thinking.

Wärtsilä is ideally positioned, together with its customers and partners, for positive disruptive development and to lead the transformation into a new era of shipping. Building on our extensive offering portfolio, and our vast installed base and industry know-how, we will continue to develop the smart technologies, business models, and competences needed to create a Smart Marine Ecosystem.

By applying smart technology and performance optimisation services, Wärtsilä aims to deliver greater efficiencies, minimised climate impact, and a higher level of safety to the shipping industry. This will result in more sustainable, safe, and profitable operations for ship owners and operators around the world. The ultimate goal is to enable sustainable societies with smart technologies.

Smart Energy

The energy landscape is in transition towards more flexible and sustainable energy systems. Wärtsilä envisions a 100% renewable energy future. Wärtsilä Energy's objective is to be its customers' most trusted partner in unlocking

the value of an optimised energy transition by providing all the essential technologies, services, and solutions for sustainable, reliable, and affordable power systems.

The transition from traditional inflexible baseload generation to renewable dominated energy is driven by the decreasing cost of new technologies. The operating environment is becoming more complex, and new players are entering different parts of the value chain. Storage technology is changing old design principles, and the importance of flexible gas is increasing. Simultaneously, the role of consumers is gradually gaining importance in power production and as a source of flexibility. Digitalisation throughout the industry brings new opportunities for predicting consumption and maintenance needs and can deliver improved competitiveness.

Wärtsilä is at the very core of future energy systems. The company's flexible power generation solutions and energy storage systems provide a unique combination of energy efficiency as well as fuel and operational flexibility in baseload, balancing, and peaking applications. These solutions provide the needed backup for existing high renewable content power systems or can later be shifted from baseload or intermittent operations to backup mode, as the energy transition proceeds. The aim is to continuously develop optimal and environmentally sound solutions for customers by focusing on Wärtsilä's core competences: market and system understanding, EPC capabilities, system optimisation, and lifecycle support.

Wärtsilä's energy services provide a broad range of high-quality services and solutions to enhance business performance of power generation companies. The solutions range from spare parts and maintenance services to ensuring maximised operational life, increased efficiency, and guaranteed power plant performance. Wärtsilä maintains and optimises power plant performance with comprehensive lifecycle solutions encompassing technology, software, and service expertise, as well as a holistic view and understanding of installations on a system level. Our goal is to secure our customers' investments with guaranteed power plant availability and reliability.

Sustainability

Economic

Wärtsilä aims to meet shareholder expectations and contribute towards the well-being of society. This requires efficient, profitable, and competitive company operations. Good economic performance establishes a platform for the other aspects of sustainability – environmental and social responsibility.

Environment

Wärtsilä's aim is to be a forerunner in sustainable innovation and furthermore reduce emissions in our customer's operations and in societies overall. Wärtsilä supplies smart technologies and services that help to mitigate climate change and protect our oceans and seas. We continuously work on achieving high environmental standards in our operations, and improving the environmental performance and efficiency of our products and solutions through R&D, collaboration, partnerships, and active engagement in ecosystems. In doing this, we help our customers and society at large to meet the goals of the tightening global environmental regulations and guidelines.

Social

We have high ethical standards and we care about the communities in which we operate. Our business operations and relations with our stakeholders are governed by our Code of Conduct. Wärtsilä is a responsible employer, and we seek to offer our employees an interesting and exciting workplace where openness, respect, trust, equal opportunities, and scope for personal development prevail. A further aim is to offer a hazard-free working environment to our employees and contractors, and to minimise the health and safety risks associated with the use of our products and services. Through effective supply chain management and continuous development we strive to ensure that our values expressed in the Code of Conduct are promoted in our whole value chain.

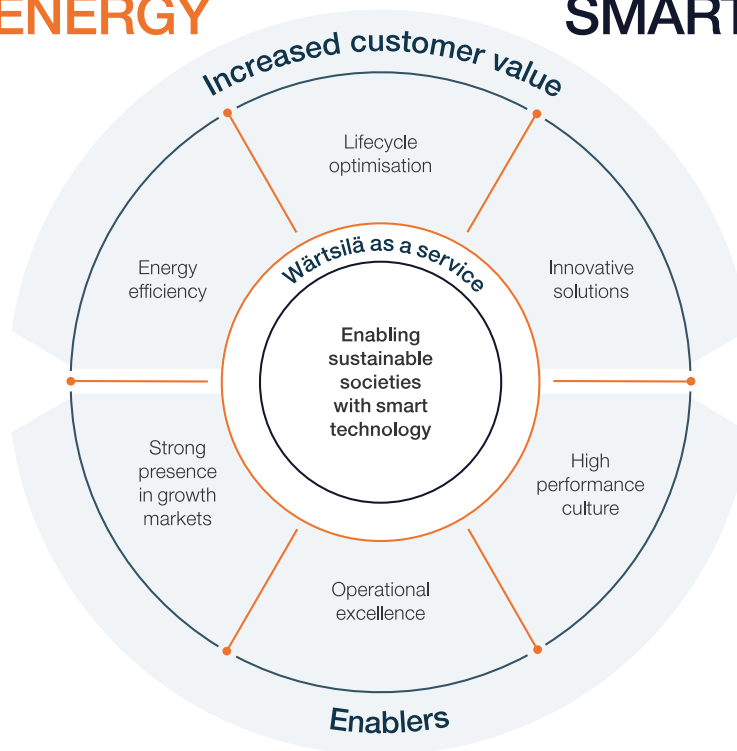
Wärtsilä's strategy

SMART ENERGY

leading the path towards a 100% renewable energy future

SMART MARINE

leading the industry transformation towards a smart marine ecosystem



Targets

Financial targets

Net sales

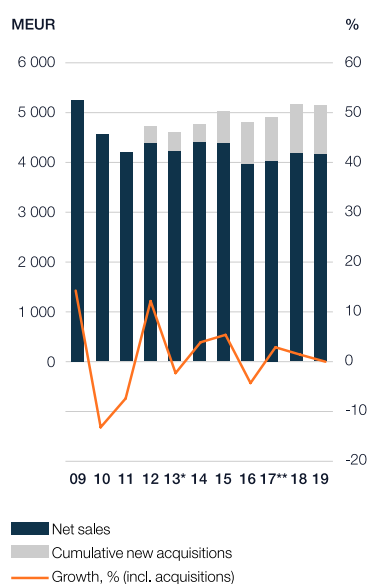
Target

Grow faster than global GDP.

Development

In 2019, net sales remained stable at EUR 5,170 million.

Growth over cycle



World nominal GDP growth 2009–2019 averages 3.7%, USD denominated (source: IMF)
 * Restated, figures include continuing operations
 ** Restated due to IFRS 15

 Profitability

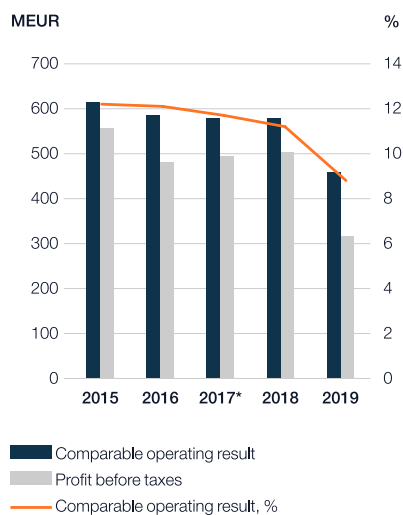
Target

The operating profit margin (EBIT%) target is 14% at the peak of the cycle. At the trough of the cycle, the target is to keep the operating profit margin above 10%.

Development

In 2019, the comparable operating result was EUR 457 million, which represents 8.8% of net sales.

Result



* Restated due to IFRS 15

 Capital structure

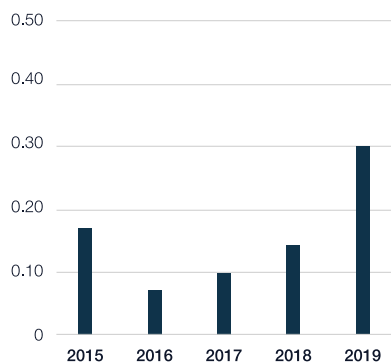
Target

Maintain gearing below 0.50.

Development

In 2019, gearing was 0.30.

Gearing



 Dividend

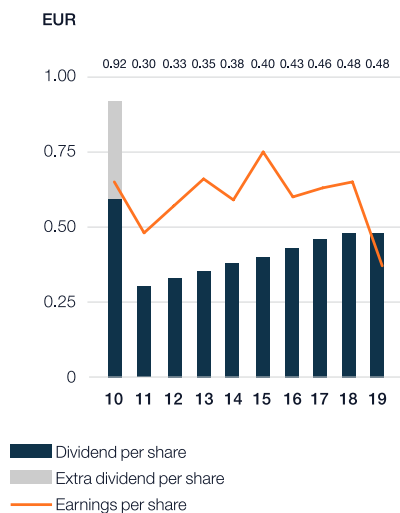
Target

Distribute a dividend of at least 50% of earnings over the cycle.

Development

The Board of Directors proposes that a dividend of EUR 0.48 per share be paid for the financial year 2019, representing 130.8% of operational earnings.

Dividend



The free share issue approved by Wärtsilä Corporation's Annual General Meeting on 8 March 2018 increased the total number of Wärtsilä shares to 591,723,390. Figures for the comparison periods 2010–2017 have been adjusted to reflect the increased number of shares.

Sustainability targets



Sustainable power systems

Target

Contribute to the development of an affordable, reliable, sustainable and modern power system worldwide.

Schedule: 2020

Development

In 2019, Wärtsilä's new product launches included the Modular Block power plant solution, the 31DF multi-fuel engine for energy industry applications, and the Engine+ Hybrid Energy solution, which pairs engines with energy storage to support renewable energy adoption. Wärtsilä signed partnership agreements with Aalto and LUT Universities to collaborate on research aimed at achieving 100% renewable energy systems. In addition, new partnerships were announced with Soletair Power Oy and Q Power Oy to develop clean fuels. Some 1,540 MW capacity of modern, highly efficient, and flexible gas and liquid fired Smart Power Generation plants were sold during the year.



Small-medium scale LNG solutions

Target

Become a global actor in the LNG value chain by developing opportunities, creating solutions, and building infrastructure for clean-burning LNG to replace liquid fuel.

Schedule: 2020

Development

Wärtsilä successfully handed over the Tornio Manga liquefied natural gas (LNG) receiving terminal in September 2019. Wärtsilä supplied the terminal with an engineering, procurement and construction (EPC) solution that included complete unloading, storage, pipeline distribution, regasification, truck loading, and ship bunkering facilities. In the Hamina LNG terminal, the tank top module was lifted into position, civil works continued, and the mechanical contractor work started.



Energy savings

Target

Reduce energy consumption by at least 7% in terms of absolute consumption (GWh) from 2015 levels by 2025.

Schedule: 2025

Development

By the end of 2019, energy savings of 3.4 GWh were achieved, representing 11.4% of the final target.



Ethical behaviour

Target

Ensure commitment to the Code of Conduct throughout the organisation (with a Code of Conduct training coverage of 100%).

Schedule: 2020

Development

Training records are continuously monitored. At the end of 2019, the Code of Conduct training coverage was 94.3% of all employees.



Occupational safety

Target

Reach the long-term goal of zero injuries.

Schedule: 2020

Development

In 2019, the corporate lost-time injury frequency rate (LTIF) was 2.25. It was slightly above the annual target of 2.14, but it nevertheless represents a 10% improvement compared to 2018 (2.50). Proactive measures continued throughout the year. As a highlight, management safety walks increased by 56%, and near miss / hazard reporting by 14% compared to 2018. Wärtsilä also initiated a new training programme "Champions in Safety" for front line employees. Altogether, 3,900 persons completed the training in 2019.



Well-being at work – career

Target

Establish a balance between external and internal recruitments, with more than 50% of the open vacancies filled from the internal applicant pool, including promotions and lateral moves.

Schedule: 2020

Development

In 2019, 64% of open vacancies were filled through internal selections for job levels 3 and up, and 36% through external selections.



Personnel development

Target

Reach 100% coverage for development discussions.

Schedule: 2020

Development

By the end of 2019, altogether 91% of the company's employees had completed development discussions.



Diversity

Target

Increase the share of female employees to 20%.

Schedule: 2020

Development

In 2019, the share of female employees was 17%.



Climate change

Target

Reduce greenhouse gas (GHG) emissions from gas engines by 15% from 2015 levels by 2020.

Schedule: 2020

Development

In 2019, Wärtsilä launched the 31SG pure gas engine for marine market applications. Greenhouse gas emissions from gas engines were reduced by 8.6% from the baseline year.



Decarbonisation of transport

Target

Contribute to the development of more sustainable transportation through gas-based and other technologies.

Schedule: 2020

Development

In 2019, Wärtsilä's product launches included the Navi-Planner voyage planning and optimisation solution, the Wärtsilä 31SG pure gas engine for marine market applications, and the Wärtsilä HY hybrid power module for dredging operations. In the Intellitug project, Wärtsilä, together with PSA Marine, made feasible an autonomously operated harbour tug concept with trials being carried out under real-world conditions. Wärtsilä joined the Zero Emission Energy Distribution at Sea (ZEEDS) initiative and the Getting to Zero 2030 Coalition to advance zero emissions shipping and commercially viable deep-sea zero emission vessels.



Climate change

Target

Reduce CO₂ emissions from vessels by more than 300,000 tons annually with the help of Eniram solutions.

Schedule: 2020

Development

The estimated reduction in CO₂ emissions during 2019 was approximately 234,000 tons. This was an 18% improvement compared to the previous year.



Supplier monitoring

Target

Reach the following rating coverage for suppliers:

- 96% of direct global supplier spend rated
- 70% of indirect supplier spend rated
- 80% of local supplier spend rated

Schedule: 2020

Development

In 2019, the rating coverages were:

- 96% of direct global supplier spend
- 76% of indirect supplier spend
- 69% of local supplier spend

Wärtsilä Marine Business

We are on a mission to create a Smart Marine Ecosystem – one in which the maritime industry uses only the cleanest available fuels. One where on-board power production is optimised, and routes are precision-planned to avoid navigational hazards, traffic congestion, and unexpected waiting times. Through our know-how, integrated product portfolio, and full lifecycle solutions – all supported by the market's most extensive service network – we are committed to being the main driving force in sustainable shipping.

Wärtsilä has a strong position in the maritime industry. Today, more than 50,000 vessels operate with one or more installed Wärtsilä products. Wärtsilä also provides maintenance services to one out of every three vessels navigating our oceans.

Responding to the challenge of decarbonisation

The biggest challenge facing the maritime industry is to move towards decarbonisation. Over the coming decades, industry players must work together to produce economically viable options that meet the International Maritime Organisation's (IMO) greenhouse gas (GHG) reduction targets. Owners of individual vessels and entire fleets must embrace changes in three areas to enable a transition towards decarbonisation. These areas include the use of technologies that improve energy efficiency, the use of data to optimise voyage and operational factors, and the shift of energy sources and fuels towards green alternatives.

Wärtsilä has a broad offering in all these three areas, and we are committed to supporting our customers in their decarbonisation efforts and to collaborating with industry stakeholders, such as regulators, energy companies, and classification societies, to bring decarbonisation to reality.

This commitment is based on our deep understanding of our customers' businesses, our technological leadership, and having the industry's broadest portfolio of hardware and software solutions as well as the most extensive service network.

Serving various customer groups during the entire lifecycle of their vessels

Wärtsilä's marine customer base covers all the main segments, including traditional merchant vessels, gas carriers, cruise ships & ferries, as well as naval and special vessels. In the oil and gas industry, we are active in serving offshore installations and related industry vessels.

During the shipbuilding process, tight cooperation with the shipyard and ship owners is required in order to design and build the vessel according to the specifics of each business operation. It is also important to have a newbuild plan that allows the flexibility to accommodate adaptations during the life of the vessel, in order to achieve the transition towards decarbonisation.

Our customers at various stages during the lifecycle of the vessel include ship owners, ship operators, ship management companies, charterers, and port authorities. Such customers have a stake in:

- Planning and execution of voyage and operations, securing safety and competitiveness in operating costs
- Planning and execution of maintenance to maximize the uptime of their assets
- Maximising asset utilisation
- Upgrading and retrofitting vessels to comply with regulations and GHG emission targets

Shipowners' decision-making is impacted by freight rates, interest rates, and the capital and operating costs of the ship. Other factors, such as environmental compliance and fuel flexibility, including the transition towards green fuels, are also important. The decision-making process is increasingly influenced by cargo owners and charterers, who are keen on securing the safety of operations, enhancing environmental performance, and lowering fuel consumption. Ports have also become increasingly active in addressing congestion, emissions, and safety. Wärtsilä's offering in ship-to-shore connecting software includes applications that address the needs of port authorities, such as just-in-time ship arrivals.

Wärtsilä is committed to continue serving a broad customer base. Moreover, we are committed to collaborating with different stakeholders to address the industry's biggest challenges and to making a step change in the sustainability aspects of maritime operations.

Our offering is the broadest in the industry

Wärtsilä's market presence, combined with having the broadest offering in the industry, enables us to understand the needs and requirements related to each of these segments – from initial vessel design choices to everyday operations, in each voyage and throughout the vessel's lifecycle. We provide innovative and competitive hardware and software solutions, delivered efficiently and with high quality.

Our offering comprises engines, propulsion, exhaust gas cleaning systems, electrical solutions, seals and bearings, water and waste treatment, gas solutions, as well as automation, navigation, and communication systems, fleet operations solutions, ship traffic control, simulators and training, and lifecycle solutions.

Our unique value proposition is present throughout three value pillars:

Energy management	Voyage management	Asset and fleet management
Within a single vessel, new or existing, we provide technologies and services to:	From port to port for both existing and new vessels	Identify, plan and perform all maintenance and upgrades for a vessel and a fleet, while safeguarding:
Optimise the use of fuels and fuel choices in order to produce energy in an economical and sustainable way throughout the vessel's lifecycle	Towards autonomy: Planning and executing a safe route with just-in-time arrival, including departure and docking in potentially highly congested port areas	Minimised emissions to air and water
Minimise emissions to air with a solid path towards the decarbonisation of the maritime industry	Optimisation: Providing guidance and, for certain applications, automatically adjusting operations to increase efficiency and reduce waste, e.g. excess fuel consumption per single voyage and at fleet level	Minimised downtime and savings in operating expense items, such as fuel, manning, and maintenance
Manage energy demand and distribution		Maximum utilisation rate
Minimise energy losses		Reliable and safe operations

Wärtsilä has a solid record in guaranteeing the performance of the customers' assets. Our recent investments in technology developments – from equipment to data collection, connectivity, analytics, and insights generation – give us the unique ability not only to detect anomalies in equipment performance but to address such anomalies with needed actions. In short, we enable more sustainable, safe, and profitable operations for ship owners and operators around the world.

Market drivers

The global demand for new vessels is mainly driven by developments within the global economy, and the resulting impact on trade and transportation capacity requirements. Other factors, such as shipyard capacity, newbuild prices, decommissioning and scrapping, fuel prices and availability, as well as interest and freight rates, also affect decisions related to the building of new vessels. The commitment that the industry has taken towards decarbonisation via the IMO's GHG targets is the main driver affecting choices being made for newbuilds and all aspects related to operations, including needs for retrofits and upgrades.

The main driver for Wärtsilä's service business within the maritime industry is the size and age profile of the installed base, paired with the running hours of such equipment.

Competitive landscape and market position

As a result of the broad offering portfolio and global market presence, Wärtsilä's field of competitors is extensive. These contain several Original Equipment Manufacturers (OEM), including engine companies such as MAN Energy Solutions, Caterpillar and HiMSEN, propeller makers such as Schottel and Thrustmaster, and environmental and auxiliary equipment providers like Alfa Laval. Our competitors also include electrical and automation houses, notably Siemens, GE and ABB, gas system providers, such as TGE Marine, and companies with a broad range of offerings such as Kongsberg. The main source of competition for maintenance services is independent service companies operating globally, and local players with a limited offering scope, such as parts traders, repair yards, local workshops, component suppliers for spare parts (non-OEM), and field service businesses.

Wärtsilä is recognised as a proven supplier of innovative and sustainable technologies and software across its portfolio serving the maritime industry. Wärtsilä has a unique opportunity to comprehensively address the challenge of emissions from shipping by providing financially attractive solutions, and by supporting the move towards decarbonisation.

Wärtsilä's strengths are:

- Strong knowledge and presence in all major maritime segments
- The broadest portfolio of reliable and high performing equipment and software in the industry
- Ability to support our customers on the journey towards decarbonisation, with solutions in all needed areas to reach GHG targets, i.e. the use of data, energy efficiency, and fuels
- A unique software platform solution (Fleet Operations Solution) to connect ship-to-shore and to use data to optimise voyage planning, fleet use, and operations
- A complete lifecycle service offering supported by an unmatched global service network and technical support
- The capability to lower operational risks for our customers and guarantee asset performance

Wärtsilä Energy Business

Wärtsilä leads the transition towards a 100% renewable energy future. We help our customers unlock the value of the energy transition by optimising their energy systems and future-proofing their assets. Our offering comprises flexible power plants, energy management and storage systems, as well as lifecycle services that enable increased efficiency and guaranteed performance. Wärtsilä has 72 GW of installed power plant capacity in 180 countries around the world.

We serve three main customer segments

Wärtsilä's three main customer segments in the energy markets are Utilities, Independent Power Producers (IPPs), and Industrial customers.

Utilities supply electricity, heat, and gas to residential, commercial, and industrial end users. They invest in various types of power generation and energy storage assets to ensure adequate load coverage, and the right palette of cost-effective and reliable products and services for their customers.

IPP's are financial investors investing in power generation and energy storage assets. They then sell the generated power either to utilities or directly to end customers. Their investments are return driven, and as with utilities, their technical requirements are application driven.

Industrial customers are mainly private companies with energy intensive production operations. By investing in captive power, they can achieve lower energy costs and be prepared for any grid reliability issues, thus ensuring security of supply. Wärtsilä serves the top end of this customer group, i.e. large industries requiring a relatively high electrical load, such as data centres, cement factories, and mining operations.

Our offering is based on flexibility and lifecycle support

Wärtsilä's energy solutions are used for a wide variety of applications. These include baseload generation, capacity for grid stability, peaking and load-following generation, and optimisation of high renewable content power systems. We provide our customers with a comprehensive understanding of energy systems, including fully integrated assets and advanced software, complete with value adding lifecycle services.

Our flexible power plants are tailored according to specific customer requirements, utilising modular products and services. The delivery scope ranges from equipment deliveries to complete engineering, procurement and construction (EPC) packages, supported by superior project management capabilities. Wärtsilä's power plant solutions provide the best means of support to power systems by offering the highest degree of flexibility, thereby enabling the design and build-up of high renewable content power systems, while minimising the system costs. Combined with our offering of energy storage and advanced software for energy management, our solutions enable the transition to a sustainable, reliable, and affordable low carbon power system. In markets where this power transition is still to come, Wärtsilä's solutions provide efficient, reliable, and flexible baseload solutions, which can be shifted to back up renewable power in the future.

With services ranging from spare parts and basic support to full operations and maintenance agreements, we ensure maximised life and increased availability for plants, along with a lifecycle cost guarantee. The performance of our customers' installations is optimised over their lifecycle through upgrades, modernisations, fuel conversions, as well as solutions enhancing safety and cyber security. The shift in our customers' business models increases the need for asset management services and drives opportunities for using real time monitoring and analytics to optimise their business performance.

Market drivers

In the energy markets, the main drivers for Wärtsilä are:

- Economic growth, electrification, and improving standards of living
- Rapidly increasing use of renewables and phasing-out of inflexible thermal capacity
- Decentralised energy
- Increasing role of flexible gas
- Emerging storage technologies
- Data and digitalisation

Economic growth, improving standards of living, and consequential electrification are jointly resulting in increased electricity consumption in non-OECD countries. The development of a more sustainable energy infrastructure is being driven by climate policies and economics. Tightening emissions legislation is forcing the closure of ageing capacity, with carbon-intensive energy sources being replaced by low carbon fuels, such as natural gas and renewable power sources. Investments in renewable generation are growing as solar and wind become increasingly cost competitive. This, in turn, is decreasing the running hours of conventional thermal capacity and creating a substantial need to add flexibility into power systems through energy storage and flexible capacity. Gas as a fuel is seen as having a key role in providing flexibility to the system. In the future, gas will be more and more carbon neutral as power-to-gas technologies utilising renewable energy to produce synthetic fuels penetrate the markets. New data, along with platform-based business models and solutions, enable system level integration and asset base optimisation throughout the entire lifecycle.

Competitive landscape

Wärtsilä's main competitors in large gas-fired projects are gas turbine manufacturers, such as GE, Siemens and Mitsubishi Hitachi Power Systems. When competing against gas turbines, Wärtsilä's combination of high efficiency, greater fuel flexibility, and superior operational flexibility enables better value propositions for many different types of customer projects. In smaller gas power plants, and in the liquid fuel power plant market, the competitors are mainly other internal combustion engine suppliers, such as MAN Energy Solutions, Caterpillar (MAK), and Rolls-Royce, as well as high speed engine manufacturers. Wärtsilä's advanced gas and dual-fuel engine technology, optimised modular power plants, superior project management capabilities, and the global service support provided throughout the lifecycle of installations, have led to Wärtsilä holding a leading position in the gas and liquid fuel combustion engine power plant markets. When looking at energy management systems and battery storage, the competition comes from companies such as Fluence, NEC and Tesla, among others.

Competition within maintenance activities is fragmented in nature and consists mainly of local players with a limited offering scope. The competition for lifecycle solutions comes from a few regional players capable of offering plant operational services. In asset performance management related services, there are new and more established competitors that provide software and analytics across industries, while some utilities are establishing these skills and knowledge in-house.

Wärtsilä's strengths:

- Competitive capital cost and engineering, procurement and construction (EPC) capability
- Unique operational and fuel flexibility
- The most proven software platform for the optimisation of renewable energy sources
- Strong track-record in operations and maintenance, optimising operating costs and increasing plant availability and efficiency throughout the plant's life
- Global technical support capabilities and know-how

Manufacturing and R&D

Wärtsilä's approach to manufacturing emphasises safe, innovative, and digitally connected processes. A strong culture of operational excellence and a commitment to continuous improvement form the basis for ensuring on-time, cost-competitive, and high-quality deliverables from advanced production environments.

The main manufacturing activities of our digitalised factories are focused on the assembly, testing, and finishing of products, as well as on the in-house production of key components. Technology leadership is continuously emphasised in our R&D activities.

A global manufacturing footprint moving towards an Extended Enterprise Vision

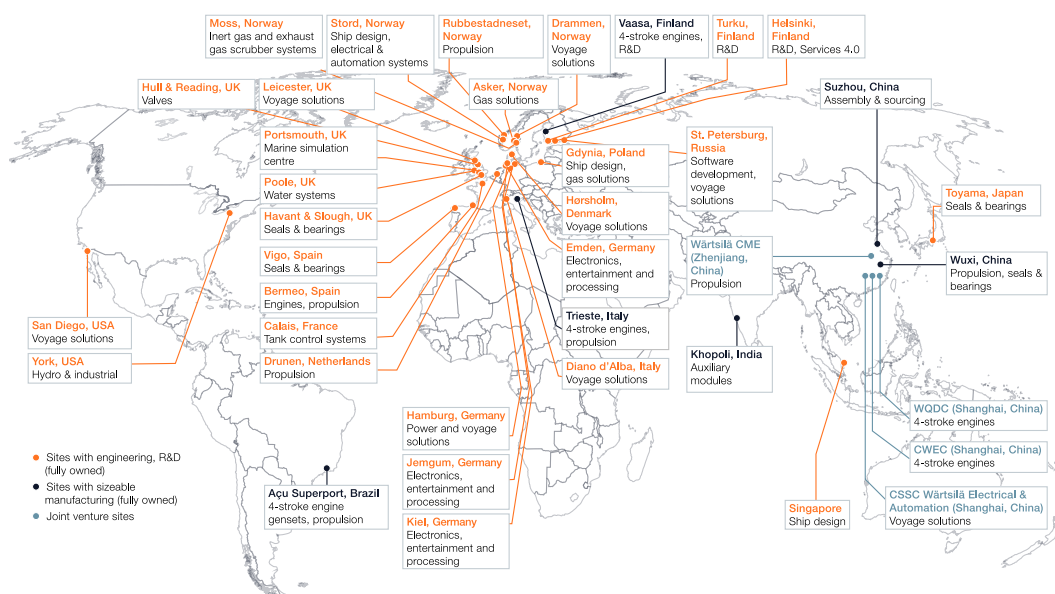
We have a global manufacturing footprint that is continuously optimised for competence, availability, customer presence, and efficiency. Our assembly-based manufacturing model, which is strongly connected to a broad network of suppliers, provides a high level of flexibility in capacity.

To further leverage this network and to support our Smart Marine and Smart Energy Vision, we are investing in the creation of a Smart Manufacturing Ecosystem, wherein all the main partners, suppliers, and different manufacturing sites are connected to create an extended enterprise. The investment in the Smart Technology Hub in Vaasa, Finland, is a core element in this ecosystem.

We work in close co-operation with carefully selected suppliers from around the world, and through excellent relations and information sharing we can ensure market-conforming lead times for component supplies. The sourcing strategy emphasises performance and innovation. The aim is to continuously develop and strengthen the company's global supply chain to maintain quality and cost competitiveness. A high level of connectivity, the smart use of advanced technologies, data integration, and seamless information sharing form the crucial backbone of Wärtsilä's Smart Manufacturing Ecosystem. For this reason, we are piloting machine learning and analytics to secure value from data gathered throughout the value chain.

Our continuous strive for quality and efficiency is supported by the company's strong operational excellence mindset, as well as investments in top-notch advanced manufacturing technologies and automatised solutions.

Wärtsilä's manufacturing and R&D footprint



Towards a sustainable future through R&D

In order to power a sustainable future for the marine and energy markets, we utilise digitalisation and the development of smart technologies to deliver new products and solutions. A substantial proportion of the investments we make in product and solution development is targeted at securing environmental compliance and providing short- and long-term benefits for our customers. As a result of this approach, Wärtsilä is well positioned to support customers in reducing emissions and decreasing the use of natural resources.

Wärtsilä develops technologies that comply with ever more stringent sustainability targets, in both the Energy and Marine Businesses. New technologies are under implementation to secure both current and future sustainability demands. Such trends include a shift towards the use of carbon neutral fuels, such as bio and synthetic fuels, and Wärtsilä has both the required know-how and the technologies and products to enable this transition.

Optimising the quality of our new solutions and their time to market is carried out using increased levels of simulation, modularisation, virtual testing, and validation. The focus is on continuous improvement, thereby securing reliability and safety without compromising quality. Only after the solutions have successfully passed all the validation process steps and confirmation that the performance meets Wärtsilä's high standards, new products can be delivered to the market.

Accelerated customer value creation through Open Innovation

Forming meaningful connections with a wide range of stakeholders, including customers, suppliers, partners, government agencies, academia and start-ups, forms the foundation for our Open Innovation activities. By co-creating and collaborating within our ecosystem, we can significantly decrease the time span from innovation to market and respond to new market needs faster. This is amplified by co-creation activities with customers to ensure that all new products and solutions create maximum value, from the assembly line throughout the full asset lifecycle.

The Open Innovation approach is promoted via our increased presence in start-up activities globally. We regularly participate in a variety of start-up accelerators and we have invited partners to co-create, prototype, and validate new products and solutions in our new Smart Partner Campus. By working together with partners in Wärtsilä R&D centres, quick insights into the potential customer values can be identified. The Open Innovation approach brings together capabilities and resources from the ecosystem to accelerate the creation of industry-leading solutions.

Research collaboration programmes

Wärtsilä participates with partners in research collaboration programmes involving universities, research institutions, and industrial partners to increase the reliability and efficiency of products, while striving to reduce their environmental impact.

The Integrated Energy Solutions to Smart and Green Shipping (INTENS) programme is one in which Wärtsilä is participating. INTENS is an industry-wide joint effort dedicated to advancing and promoting the digital transformation in marine industries and beyond.

Smart Technology Hub

Wärtsilä is building its Smart Technology Hub, a new centre of research, product development and production in Vaasa, Finland. Several major milestones in the programme were reached during 2019 as the project progressed from planning to implementation. In August 2019, the excavation work and construction was started. The ground-breaking ceremony was organised on 10 September 2019. The first transfers to the new site are scheduled to take place in late 2020, and the Smart Technology Hub is to become operational during 2021.

Inside the Smart Technology Hub, there will be a Smart Partner Campus where research and product development activities can take place together with Wärtsilä's customers and suppliers, start-ups and universities. In March 2019, Wärtsilä selected the first partners for the Smart Partner Campus. The first phase in the concept will be designed together with Danfoss, Demos Helsinki Oy, NLC Ferry Ab Oy, Royal Caribbean Cruises Ltd, Vaasan Sähkö Oy, and University of Vaasa.

Innovating for sustainability

Wärtsilä's purpose is to enable sustainable societies with smart technologies. As a global leader in complete lifecycle solutions for the marine and energy markets, we play a key role in providing our customers with sustainable solutions and services that maximise their environmental performance. This is the cornerstone of our commitment to sustainability, and it is supported by our strong focus on responsible business conduct.

The call for climate action, together with the world's growing energy demand and scarcity of natural resources, is increasing the need to speed up the transition towards clean and flexible energy and low-emission and smart transportation. Wärtsilä continuously invests in developing technologies for a 100% renewable energy future and a Smart Marine Ecosystem. Sustainable innovation and product development, added with our strong emphasis on digitalisation and smart technologies, are essential for meeting current customer needs, future requirements, and for remaining an industrial frontrunner.

Creating a sustainable future through R&D

Wärtsilä develops sustainable solutions across a broad front, including technologies related to efficiency improvement, fuel flexibility, the reduction of gaseous and liquid emissions, waste treatment, noise abatement, hybrid and energy storage systems, as well as effluent and ballast water treatment. Our proactive approach to meeting future demand has resulted in the development of both primary and secondary abatement technologies and has broadened the range of usable fuels. Moreover, Wärtsilä actively develops digital innovations and advanced data analytics systems for the maritime and energy sectors. We offer intelligent digital solutions and services to collect, analyse, monitor, and report data in order to optimise operations and reduce emissions.

Our commitment to investing in research and product development benefits our customers as well as the environment, both in the short term and over a longer time span. The key features of our environmental solutions and services include:

- Compliance with environmental regulations
- Lifecycle support and optimisation
- Reliability, safety, and a long lifespan
- High efficiency
- Digital intelligence
- Low emission levels
- Renewable energy integration with engines and storage systems
- Fuel flexibility
- Dynamic capabilities
- Low water consumption

By combining these key features, and understanding the system level benefits of our offering, we are able to provide solutions that enable the development of sustainable shipping and power systems.

Improvements in efficiency



Fleet efficiency

Wärtsilä Fleet Operations Solution (FOS) is designed to achieve the highest level of safety at sea, increase fleet efficiency and simplify everyday tasks both ashore and on board. FOS unites all navigational processes and voyage data on a single platform, making the crew and the operations centre work as one. FOS offers improved operational processes relating to fleet performance, voyage planning and execution, weather routing, and ship-to-shore reporting in compliance with environmental regulations such as EU-MRV and IMO-DCS.



Total vessel and voyage efficiency

An efficient and low emission system for the entire vessel is achieved by combining optimised ship design with Wärtsilä's knowledge of automation, machinery, propulsion, and control systems. Wärtsilä has developed numerous efficiency concepts, such as the Electric Propulsion Systems Low Loss Concept (LLC) and Low Loss Hybrid (LLH). Wärtsilä also offers vessel and voyage efficiency optimisation services that improve energy efficiency, reduce emissions and costs, and help make the best possible decisions for asset management and voyage performance.



Power plant efficiency

Wärtsilä engine-based power plants offer the highest single cycle efficiencies with outstanding flexibility using a broad range of fuels. Total plant efficiency can further be improved and optimised by adding hybrid solutions, Flexicycle™ solutions (steam combined cycles), combined heat and power (CHP), trigeneration (power, heat and cooling), and also through Wärtsilä lifecycle solutions, which ensure that the power plant operates in the most energy-efficient way and in accordance with regulations. Wärtsilä also offers tools for the smart integration of energy production and storage at the system level.



Engine efficiency improvements

A long-term focus on improving engine efficiency has resulted in Wärtsilä engines having the highest efficiency ratings among existing prime movers. A key success factor has been the development of integrated engine functionalities that enable low emissions and high engine efficiency. The Wärtsilä 31 engine has the best 4-stroke engine fuel economy in the world. The Wärtsilä 31SG is the newest gas engine we offer, taking efficiency to a new level for internal combustion engines.



Propulsion efficiency upgrades

Propulsion products incorporate environmental features and are critical to the overall environmental impact of the vessel. Wärtsilä's generation propulsion units and energy saving solutions, such as the Wärtsilä EnergoFlow, result in significant fuel efficiency improvements by up to 10% and reduce NO_x and CO₂ emissions.

Reducing emissions to air



CO₂ and other greenhouse gas (GHG) emissions

Wärtsilä focuses on the development of technologies that reduce GHG emissions in numerous ways. These include, among others, gas and multi-fuel engines, as well as solutions for environmentally advanced vessels, voyage optimisation, and energy storage. Wärtsilä's flexible energy solutions enable a transition towards a 100% renewable energy future. At the system level, GHG emission reduction is achieved by enabling the optimal integration of renewable energy sources and the use of renewable fuels.



SO_x emissions

Wärtsilä provides several solutions to help customers reduce emissions of SO_x and comply with local and global regulations. Wärtsilä's technology development supports solutions that enable the use of fuels with different sulphur contents, as well as systems that clean sulphur from exhaust gas and enable the use of alternative fuels with close to zero sulphur content, e.g. natural gas. Wärtsilä exhaust gas cleaning systems (EGCS) not only reduce SO_x emissions but also remove large levels of particulate matter (PM) and black carbon. The Wärtsilä EGCS can be customised for both the 0.1% limit in Emission Control Areas (ECA) and the global 0.5% cap agreed within the IMO.



NO_x emissions

All Wärtsilä marine engine portfolio products are IMO NO_x Tier II compliant. Wärtsilä solutions for IMO NO_x Tier III compliance are Selective Catalytic Reduction (SCR), dual-fuel engines in gas mode, and pure gas engines (Wärtsilä 31SG). The NO_x emission levels of Wärtsilä stationary engine-based power plants are low enough to meet the most current environmental regulatory requirements. To comply with even the strictest environmental regulations, Wärtsilä offers solutions such as SCR.

Protecting the marine environment



Ballast water management systems

Wärtsilä's Aquarius range of IMO and USCG approved Ballast Water Management Systems (BWMS) limit the spread of ballast water related invasive species and prevent their introduction to aquatic ecosystems. The Aquarius BWMS range offers both Ultraviolet UV (USCG type approved) and Electro Chlorination EC technology (USCG type approved).



Waste treatment

Wärtsilä offers a complete, fully integrated wet and dry waste treatment system suitable for all vessel types and sizes. Wärtsilä's innovative advanced waste water treatment technology, with external membrane separation, is based on biological degradation. The system allows for the high purity treatment of black and grey water in accordance with the most stringent global legislation, including the removal of nutrients such as phosphorous and nitrogen compounds, as required for special areas such as the Baltic Sea and Alaskan waters. Wärtsilä's waste management product range also includes vacuum toilets and collection systems, food waste collection & treatment systems, solid waste handling, drying and incineration, and sewage treatment plants.

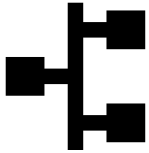
Sustainable Innovations in 2019

The Wärtsilä 31 engine application range was expanded during the 2019, with the Wärtsilä 31SG pure gas engine being made available to the marine sector and the Wärtsilä 31DF multi-fuel engine to the power generation markets. The development of these engines is a direct result of Wärtsilä's on-going commitment to reduce greenhouse gas emissions from its gas engines by 15% by 2020 from 2015 levels. For the energy market, Wärtsilä also launched a hybrid energy solution for isolated and remote grids and a Modular Block power plant solution. For the marine markets, Wärtsilä launched several solutions in support of its Smart Marine Ecosystem vision, including new navigation solutions, hybrid solutions, and offering aimed at smarter performance and greater profitability.

Smart Energy Systems



Launch of **Engine+ Hybrid Energy**: As with a hybrid vehicle, the solution pairs engines with energy storage to form a fully integrated, automated system that provides reliable and environmentally sound power generation with improved efficiency for isolated and remote grids, such as mining operations and other self-generation systems. The solution enables greater efficiencies, maintenance optimisation, emission reductions, and a more streamlined addition of renewables into power systems.



Introduction of the **Modular Block power plant solution**: This pre-fabricated, modularly configured, and expandable enclosure for Wärtsilä medium-speed 34SG gas engine generators enables the reduction of on-site installation time from several months to a few weeks. It also makes Wärtsilä's advanced medium-speed engine technology available for applications where it would not otherwise be viable. Medium-speed engine technology has inherently higher efficiency and lower lifecycle costs than containerised high-speed engines or gas turbine solutions. The Wärtsilä Modular Block is easy to integrate with renewable energy and storage systems. It is ideal for providing grid stability and balancing when integrating renewable energy sources with intermittent production.



Introduction of the **Wärtsilä 31DF multi-fuel engine** to the energy industry: Wärtsilä's latest engine and power plant solution to the power generation markets offers high efficiency and reduced fuel consumption and costs, while minimising carbon emission levels. The level of efficiency is retained even in partial load conditions, and the engine can resist output de-rating when operating in hot and humid conditions.

Smart Marine Ecosystems



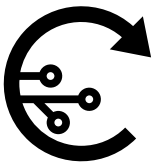
Launch of **RS24 high resolution radar**: The RS24 is the world's first commercially available K-band maritime radar. By detecting far smaller objects and at a much higher radar resolution than conventional S or X-band radars, the RS24 enables small vessels and other potential hazards close to large ships to be visible. This promotes safety, especially in congested shipping lanes and busy ports. The technology was developed by Guidance Marine, a Wärtsilä company.



Launch of the **Wärtsilä HY for Dredger**: This new product is based on Wärtsilä's HY hybrid propulsion technology. It is aimed specifically at enhancing the efficiency and sustainability of dredging operations. The Wärtsilä HY for Dredger features a combination of different power sources, including engines and energy storage systems, power distribution equipment, and the Energy Management System (EMS). Sustainability is enhanced with reduced emission levels in all modes, with zero emissions attained when running in full battery mode.



Unveiling of the new **Navi-Planner voyage planning and optimisation solution**: Developed by Transas, a Wärtsilä company, the new Navi-Planner makes use of the connected Electronic Chart Display and Information System (ECDIS) to significantly shorten voyage planning and to provide a minimum navigational safety standard for less experienced crews.



Introduction of the new **digital version of Operim – Operational Performance Improvement & Monitoring**: Operim provides owners and operators with constant, real-time data on Wärtsilä products and solutions installed on their vessels and utilises the latest digital technology to provide the data needed to allow the vessels, and the machinery driving them, to be operated at optimal efficiency at all times. It monitors performance constantly so that adjustments can be made as operating conditions, including external factors such as sea and weather, change.



Upgrade and redesignation of the LJX series of **modular waterjets to the Wärtsilä WXJ series**: The development is based on a new axial pump design, which boosts performance with an increased thrust of as much as three percent, while the improved cavitation margins help reduce the environmental impact by lowering noise levels.



Launch of the **Wärtsilä 31SG pure gas engine for marine market applications**: The Wärtsilä 31SG engine further reduces the total cost of ownership and the environmental footprint of vessels operating in regions where there is a developed gas infrastructure.



Launch of **Wärtsilä Dualguard** – a new sealing solution for oil-lubricated vessels: The solution alleviates the risk of operational oil leakages and related non-compliance. It withstands extreme conditions, safeguards against fishing lines and other debris, and lessens the likelihood of a bonding failure, delivering enhanced operational and environmental efficiency.

Partnerships enhancing sustainability

In 2019, Wärtsilä signed several new partnership agreements and joined initiatives with leading and pioneer companies, universities, and other organisations to put the company's purpose and strategic goals for a 100% renewable energy future and a Smart Marine Ecosystem into action. These partnerships aim to enhance new research and cooperation on innovative sustainable solutions, improve efficiency, and accelerate the development of close to zero emissions shipping and clean fuels.

University partnerships enhancing research

Wärtsilä signed a partnership agreement with Aalto University in Finland to strengthen and broaden current cooperation, and to create solutions to challenges related to climate change, scarcity of natural resources, and digitalisation. Wärtsilä also signed a research agreement with Lappeenranta-Lahti University of Technology (LUT) in Finland on strategic power system modelling, with the aim of understanding and developing paths towards 100% renewable energy systems. Under the agreement, LUT University's solar economy research group will support Wärtsilä's development work and provide access to LUT University's power systems database.

Improved efficiency

Wärtsilä and Samsung Heavy Industries (SHI) signed a joint development project agreement aimed at improving the efficiency of LNG carriers and shuttle tankers. The joint development with SHI supports Wärtsilä's commitment to creating greater efficiencies, better environmental sustainability, and improved safety for its customers.

Towards close to zero emissions shipping

Wärtsilä, together with five other leading Nordic industrial companies, joined forces to explore the fastest routes to achieve zero emissions shipping under the Zero Emission Energy Distribution at Sea (ZEEDS) initiative. In addition, Wärtsilä joined the Getting to Zero 2030 Coalition, which is committed to getting commercially viable deep-sea zero emission vessels powered by zero emission fuels into operation by 2030. Along with 74 other organisations, Wärtsilä is committed to the decarbonisation of deep-sea shipping and its energy value chains, in line with the most ambitious interpretation of the IMO's carbon emissions reduction strategy and the latest relevant IPCC climate science.

Moreover, Wärtsilä and Singapore-based PSA Marine agreed to collaborate in the co-creation of smart technologies for the marine sector, including the use of electric or hybrid technologies that further the use of low-emissions energy and propulsion systems. The intention is to integrate the deep capabilities developed in the IntelliTug project with new configurations and concepts of hybrid, electric, and other clean energy sources. Wärtsilä also signed a strategic five-year development agreement with Chinese state-owned shipbuilder CSSC Huangpu Wenchong Shipbuilding Company Limited to develop jointly a hybrid powered dredger, but possibly extending to other hybrid vessels as well.

Clean fuels

Wärtsilä provided seed funding to Soletair Power Oy, a Finland based start-up company operating in the field of Power-to-X. Soletair Power Oy has developed a unique concept to improve air quality in buildings by capturing CO₂ and converting it to synthetic renewable fuel. In addition, Wärtsilä and Q Power Oy, a Finnish pioneer in

biomethanisation, signed a cooperation agreement to accelerate the development and commercialisation of renewable fuels. The companies will work closely together to further develop the market and to find business opportunities for biomethanisation and synthetic fuels globally. The collaborations with Soletair Power and Q Power are a continuation of Wärtsilä's way of working with start-ups and other energy players to develop and scale up technologies and business opportunities that support a 100% renewable energy future.

Why invest in Wärtsilä

Wärtsilä's strengths lie in our integrated services and solutions offering, data-driven innovations, close and long-standing customer relationships, and an unparalleled global presence.

Supporting customers with lifecycle solutions

Our business model is based on providing the marine and energy markets with smart technologies and optimised lifecycle services. Our service activities represent approximately 50% of total net sales, providing a good foundation for achieving the long-term target of profitable growth.

The demand for Wärtsilä's services is supported by the increasing technological sophistication of the installed equipment base. Our commitment to investing in digitalisation provides opportunities to further develop our value-adding customer offering, for instance by leveraging advanced diagnostics to optimise performance.

A leader in smart technology for the marine and energy markets

The shift towards clean and flexible energy production, and the need for efficient and safe transportation, form the basis of our offering of smart solutions. As an industry frontrunner, we are committed to responding to the need for innovative and energy efficient solutions. Our digital transformation will provide enhanced customer value through an increased focus on collaboration and knowledge sharing. Continuous investments in research and development are vital for ensuring the competitiveness of our product portfolio and for securing a leading position in sustainable innovation.

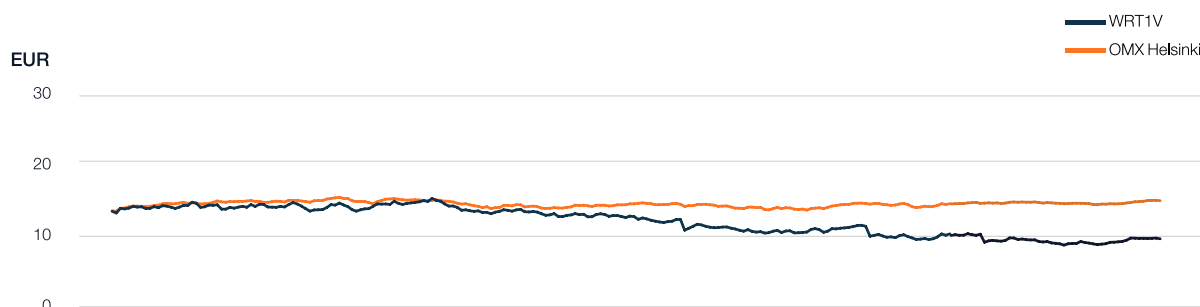
A capital-light business model emphasising increased efficiency

Our manufacturing model is assembly-based, with shared production and R&D facilities. This creates flexibility in aligning operations to market conditions and synergies in innovation processes. We focus on continuous process improvement throughout the organisation in order to achieve operational excellence.

Investing in technological leadership and providing shareholder returns

Our sound financial position enables investments in research and development activities and developing the business through acquisitions, while offering solid dividends to our shareholders.

Wärtsilä's share price development in 2019

**Q1**

Growth in net sales, good development in profitability

30.1.

Wärtsilä initiated a formal process to realign its operations and resources to secure future profitability and competitiveness.

11.2.

Wärtsilä and Aalto University in Finland signed a Partnership Agreement that aims at strengthening and broadening their cooperation.

7.3.

The Annual General Meeting was held in Helsinki.

11.3.

Wärtsilä was contracted to deliver a 132 MW dual-fuel power plant to Bahamas on a fast-track, EPC basis.

15.3.

Wärtsilä successfully tested its remote guidance services onboard the RoRo ferry Huckleberry Finn.

18.3.

The first dividend instalment of EUR 0.24 per share was paid.

20.3.

Wärtsilä was awarded a contract to supply an integrated package of products, systems, and solutions to Wasaline's new, efficient and environmentally sustainable RoPax ferry.

20.3.

Wärtsilä selected its first cooperation partners for Smart Partner Campus, a flexible smart marine and smart energy platform.

Q2

Stable development in net sales, equipment profitability challenging

10.4.

Wärtsilä launched Wärtsilä Online, a new web-based customer platform.

15.4.

Wärtsilä agreed to provide seed funding to Soletair Power Oy, a Finland-based startup company operating in the field of Power-to-X.

16.4.

Wärtsilä launched Engine+ Hybrid Energy, a solution that pairs engines with energy storage.

2.5.

Wärtsilä acquired Ships Electronic Services Ltd, a UK-based company specialising in navigation and communication electronics.

3.6.

Wärtsilä secured the first order for SmartDock, making it the world's first commercially available auto-docking solution.

4.6.

Wärtsilä introduced a digital version of Operim – Operational Performance Improvement & Monitoring, as well as the new Navi-Planner voyage planning and optimisation solution.

13.6.

Wärtsilä launched its Modular Block power plant solution.

17.6.

Wärtsilä secured a 7-year maintenance management and operational advisory agreement for two power plants in Bangladesh.

Q3

Project related challenges and low equipment demand – services activity remained sound

9.7.

Wärtsilä announced an order to deliver the marine sector's first hybrid installation for a bulk carrier.

3.9.

Wärtsilä introduced the Wärtsilä 31DF multi-fuel engine for the power generation markets.

11.9.

Wärtsilä secured a 5-year extension to a guaranteed asset performance agreement for a combined heat and power plant in Hungary.

12.9.

Wärtsilä announced an order to fit the new Wasaline RoPax ferry with the Nacos Platinum navigation and communication system.

17.9.

Wärtsilä launched the Wärtsilä 31SG pure gas engine for marine applications.

26.9.

Wärtsilä and Q Power Oy signed a cooperation agreement to accelerate the development and commercialisation of renewable fuels.

27.9.

The second dividend instalment of EUR 0.24 per share was paid.

Q4

Net sales increased but project challenges still burdened operating result

23.10.

Wärtsilä co-founded a global cyber security alliance, which aims to bridge dangerous gaps in security for operational technology and industrial control systems.

24.10.

Wärtsilä appointed Alid Dettke as Executive Vice President, Human Resources.

7.11.

Wärtsilä's autonomous harbour tug (IntelliTug) project proceeded with the successful installation of a first-of-its-kind Dynamic Positioning system onboard a harbour tug.

15.11.

Wärtsilä and Singapore-based PSA Marine agreed to collaborate in the co-creation of smart technologies for the marine sector.

21.11.

Wärtsilä launched its Expert Insight predictive maintenance product.

25.11.

Wärtsilä received a strategically important order to supply its fleet operations solution to Anglo-Eastern's global fleet of more than 600 vessels.

2.12.

Wärtsilä secured an order to provide a full energy storage solution for one of the largest hybrid power projects at an off-grid mine in Mali.

12.12.

Wärtsilä announced the divestment of its ELAC Nautik business.

16.12.

Wärtsilä announced the first order of the Wärtsilä Modular Block to be delivered in Mali.

17.12.

Wärtsilä secured an order to supply its Vessel Traffic Service solution to two of France's leading ports, Calais and Boulogne.

Wärtsilä is included in the following sustainability indices:



FTSE4Good
FTSE4Good Index



2019 Constituent
MSCI ESG
Leaders Indexes

MSCI Global Sustainability Index
Series



Ethibel Sustainability Index (ESI)
Excellence Europe



ECPI Global Carbon Equity Index
& ECPI Global ESG Best in Class
Equity Index



OMX GES Sustainability Finland
Index



S&P Global, The Sustainability
Yearbook



STOXX Global ESG Leaders Index



Dow Jones Sustainability Indices

S&P Europe 350 ESG Index

Sustainability

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Sustainability at Wärtsilä

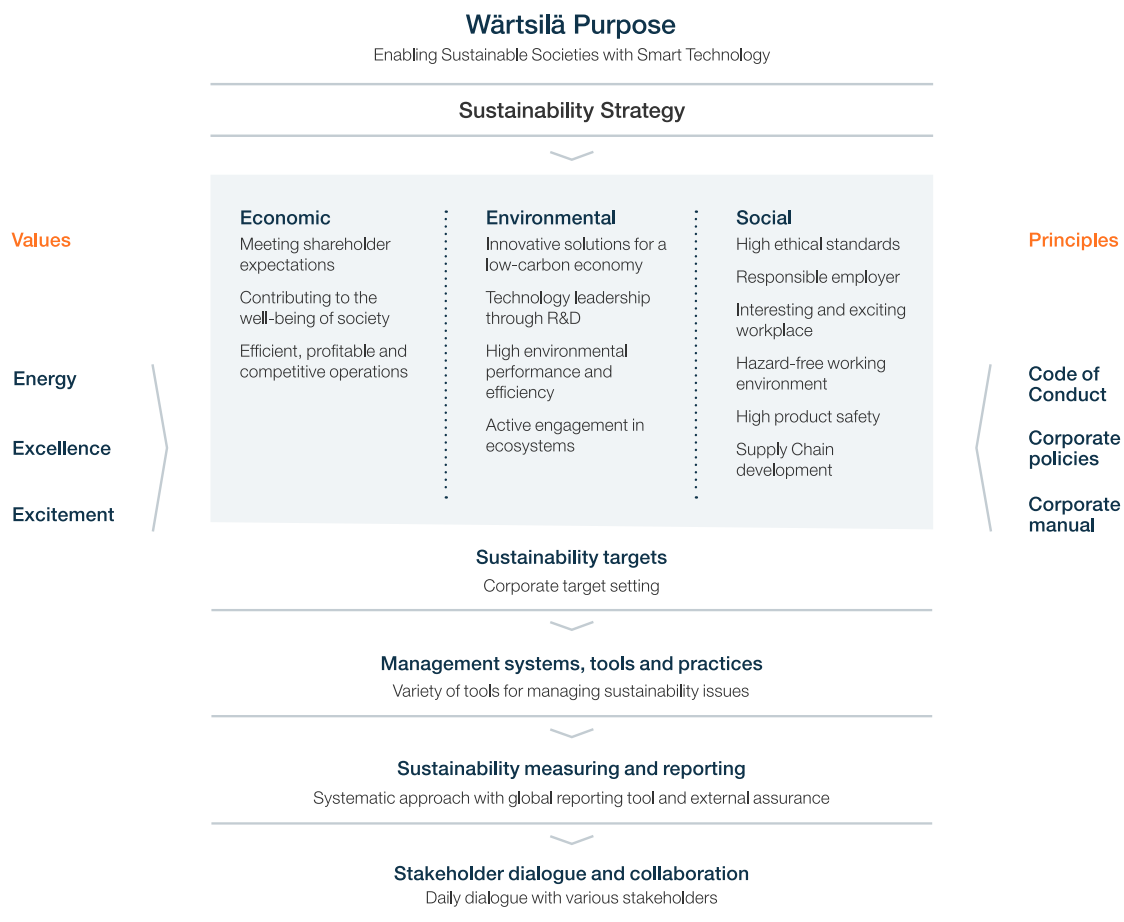
Our commitment to sustainability and responsible business is based on our purpose and strategy, which along with our sustainable development objectives create the framework for developing the company's activities and products. Wärtsilä's strategy is based on three key areas, energy efficient solutions, lifecycle optimisation, and innovative solutions, all of which contribute to a more sustainable future in both the energy and the marine industry.

Our strength is our technological leadership and therefore technology plays a central role in our sustainability work. Wärtsilä Energy Business and Marine Business focus on developing and providing sustainable solutions and services for the industries in which they operate. The utilisation of lifecycle data analytics will enhance our efforts on enabling sustainable societies with smart technology. The role of technology and R&D in our sustainability work is described in the Innovating for sustainability section.

Wärtsilä's governance and risk management principles are described in the Governance section. Wärtsilä identifies and assesses its sustainability risks on an annual basis. Based on the current assessment, the sustainability risks are considered to be at a moderate level, and sustainability forms an opportunity for Wärtsilä.

The overall management approach of sustainability is presented in the picture Wärtsilä's sustainability approach. Wärtsilä's strategy for environmental and social responsibility is presented in the Strategy section. Wärtsilä sets corporate level sustainability targets for the core areas.

Wärtsilä's sustainability approach



Wärtsilä’s sustainability is systematically managed through the Group-wide guiding principles and management systems and practices in place for material sustainability topics and impacts.

The key elements of Wärtsilä’s sustainability management are described in the table below. The guiding principles lay the foundations for uniform management practices. The management approach covers procedures, processes, and systems to manage and monitor material topics.

Guiding principles	Management areas	Material topics
Code of Conduct	<u>People management</u>	Emissions
QEHS Policy	<u>Product design</u>	Environmental compliance
Policy of human rights, equal opportunities and fair employment practices	<u>Environmental management</u>	Economic performance
Corporate Manual	<u>Occupational health and safety management</u>	Training and education
	<u>Responsible business conduct</u>	Occupational health and safety
	<u>Supply chain management</u>	

The following voluntary commitments also guide Wärtsilä’s sustainability work. Wärtsilä has signed the United Nations Global Compact initiative and supports its ten principles with respect to human rights, labour, the environment, and anti-corruption. We are committed to align our strategy, culture, and day-to-day operations with these principles, and to engage in collaborative projects that advance sustainable development. Our Code of Conduct and sustainability approach provide the main framework for promoting the principles within our sphere of influence.

In 2019, Wärtsilä joined the ResponSea initiative alongside other Finnish Marine Industry (FMI) members to drive sustainable development across the sector as part of Finland’s Society’s Commitment to Sustainable Development. We have also signed an Energy Efficiency Agreement whereby Finnish industry voluntarily endeavours to use energy more efficiently for the period 2017-2025. Wärtsilä North America Inc. has signed the Customs Trade Partnership Against Terrorism (C-TPAT) agreement.

In 2019, Wärtsilä also joined the Getting to Zero Coalition, which is committed to getting commercially viable deep sea zero emission vessels powered by zero emission fuels into operation by 2030. More information about our new partnerships announced during the year can be found in the Innovating for Sustainability section.

Our sustainability work is also described in the following sections: CEO review, Why invest in Wärtsilä, Sustainability highlights, The year 2019 and Stories.

Stakeholder relations

Active engagement with our stakeholders is vital for the development of our business activities, as well as for exchanging information, building long-lasting relationships, and contributing to the building of sustainable societies.

At the corporate level, we have defined our most important stakeholders as being our customers, owners, suppliers, employees, and society in general. Wärtsilä subsidiaries define their own primary stakeholders. In addition to the ones mentioned above, these typically include residents close to production plants, educational institutes, and public authorities. Wärtsilä's Code of Conduct and supporting policies provide the foundation for the management of stakeholder relations.

Main expectations of Wärtsilä's stakeholders and Wärtsilä's goals



Stakeholder engagement

Wärtsilä engages with its stakeholders in numerous ways to encourage and maintain active and open dialogue, and to seek innovative future solutions.

For existing and potential customers, Wärtsilä arranges Customer Day events at different locations in various parts of the world. During these events, subjects of topical interest from both local and global perspectives are reviewed, and existing and future needs and challenges are discussed. In addition to Customer Days, the Marine Solutions and Energy Solutions businesses arrange, or participate in, hundreds of global industry-related events annually,

including international and national seminars, exhibitions and conferences. These events are attended by customers, potential customers, and other stakeholders, such as investors, consultants, suppliers, students, and other interested parties

Long-term research programmes and partnerships are an important means of enhancing open dialogue and co-operation with key industry players and important research institutions. Wärtsilä has actively initiated and participated in the development and work of several research partnerships, both locally and internationally. Partnerships announced in 2019 are presented in the [Innovating for sustainability](#) section.

Focusing on analysts and investors: Wärtsilä Capital Markets Day

Every 18 months, the Wärtsilä Board of Management hosts domestic and international analysts, investors, and bankers to update them on Wärtsilä's strategy and future direction. In November 2019, 60 participants joined Wärtsilä's Capital Markets Day (CMD) in Helsinki, and a further 160 participants followed the event via the live webcast. Through open dialogue and by answering insightful and at times challenging questions from the audience, Wärtsilä took the opportunity to position itself in the market and explain how the company differentiates itself from the competition.






The CMD is a combination of describing market trends, diving deeper into technical solutions, and having focused discussions concerning topical themes. Based on the feedback received, overall satisfaction with the event was high, and many noted that it provided interesting updates on market trends and Wärtsilä's positioning. The audience especially appreciated the external insight and analysis on the future of energy.

Dialogue with employees takes place in many formats. More information about the procedures and processes to support active and engaging dialogue with Wärtsilä employees is described in the [People management](#) section.

Wärtsilä also engages in an active and open dialogue with local and international public authorities and officials. The aim is to share information, provide expertise, and support authorities in improving the quality of regulatory matters. Wärtsilä participates in public consultations in areas that are of importance to the company.

Stakeholder group	Channels of dialogue	Assessment tools (Frequency)
Customers 	<ul style="list-style-type: none"> Regular meetings Joint projects Workshops, events and seminars Dedicated communications Corporate websites, social media channels Conferences and exhibitions Customer feedback system 	<ul style="list-style-type: none"> Customer satisfaction surveys (Continual) Quality surveys (Continual)
Employees 	<ul style="list-style-type: none"> Open and continuous dialogue between management and employees through internal events, communication channels and daily interaction Annual development discussions Check-in discussions and continuous feedback Town hall meetings 	<ul style="list-style-type: none"> Employee engagement survey MyVoice (Annual) Pulse surveys (ad hoc, 1-4 times a year)

- Internal communication channels
- Training events
- National statutory employee bodies and the European Works Council
- Occupational health and safety committees
- Collaborative innovation platform Spark
- Compliance reporting
- Continuous Improvement Proposals (CIP) and Initiatives

<p>Owners, investors</p> 	<ul style="list-style-type: none"> • Management meetings with investors, financiers, and analysts • Annual General Meetings • Capital Markets Days • Roadshows • Stock exchange and press releases • Annual and Interim Reports • Corporate websites, stakeholder magazines and newsletters 	<ul style="list-style-type: none"> • Investor relations surveys (Annual) • Sustainability surveys and indices (Annual)
<p>Suppliers</p> 	<ul style="list-style-type: none"> • Regular dialogue with suppliers on supplier performance • Supplier portal eTool • Supplier development support • Supplier Days 	<ul style="list-style-type: none"> • Supplier assessments and audits (Continual)
<p>Society</p> 	<ul style="list-style-type: none"> • Engagement with public officials on issues such as the environment and occupational health and safety • Meetings with decision makers • Position papers and consultations • Open door days • Sustainability reporting • Local communications • Sponsorships • Corporate websites, newsletters, social media 	<ul style="list-style-type: none"> • Stakeholder feedback (Continual) • Corporate image surveys (Annual)
<p>Organisations</p> 	<ul style="list-style-type: none"> • Regular contact with trade and industrial associations and public bodies • Participation in boards and working groups • Meetings, seminars, conferences and other events 	<ul style="list-style-type: none"> • Internal assessment of memberships (Continual)
<p>Universities</p> 	<ul style="list-style-type: none"> • R&D and student projects • Discussions with university administration • Thesis work and internships 	<ul style="list-style-type: none"> • Preferred employer surveys (Annual)

	<ul style="list-style-type: none"> • Events, seminars, lectures 	<ul style="list-style-type: none"> • Feedback from student and research projects (Continual)
Media 	<ul style="list-style-type: none"> • Briefings • Site, factory and reference visits • Stock exchange, corporate and trade press releases • Management and expert interviews • Annual and Interim reports • Stakeholder magazines, newsletters, social media 	<ul style="list-style-type: none"> • Surveys conducted among business journalists (Annual) • Media visibility and share of voice reporting (Quarterly)

Activities in organisations

Wärtsilä takes part, and holds memberships, in organisations that are significant to the company's business strategies and markets. We participate in activities organised by various international and national organisations and associations through our daily work, board and working group activities, as well as meetings, seminars and conferences.

In 2019, new memberships included, for example, the Power to X Allianz (Germany) and the European Commission's European Ports Forum.

Key organisations for Wärtsilä and the nature of Wärtsilä's involvement in these organisations at the end of 2019 are presented in the table below.

Stakeholder	Organisation	Nature of activity
Interest groups 	<ul style="list-style-type: none"> • Confederation of Finnish Industries (EK) • Finland Chamber of Commerce • ICC Finland • International Chamber of Commerce (ICC) • Teknologiateollisuus – Federation of Finnish Technology Industries 	Board membership or participation in activities of specific working groups: EK, ICC Finland, Teknologiateollisuus. Membership and participation in activities: Finland Chamber of Commerce, ICC.
Industrial organisations 	<ul style="list-style-type: none"> • American Public Power Association (APPA) • Association of Singapore Marine Industries (ASMI) • Brazilian Institute of Oil and Gas (IBP) • Brazilian Thermolectric Generators Association (ABRAGET) • Caribbean Utilities Association (CARILEC) • Cogen Europe • Cruise Line International Association (CLIA) • Engine Manufacturers Association (EMA) • European Association of Engine Manufacturers (Euromot) 	Board membership or participation in activities of specific working groups: CARILEC, CIMAC, Cogen Europe, EMA, Euromot, EUGINE, SEA\LNG, VDMA, WaterBorne TP. Membership and participation in activities: ABRAGET, APPA, ASMI, CLIA, EGCSA, ESA, IBP, Interferry, Power to X Alliance, SGMF.

- European Engine Power Plants Association (EUGINE)
- Exhaust Gas Cleaning System Association (EGCSA)
- Interferry
- International Council on Combustion Engines (CIMAC)
- SEA\LNG
- Power to X Alliance
- Society for Gas as a Marine Fuel (SGMF)
- U.S. Energy Storage Association (ESA)
- Verband Deutscher Maschinen- und Anlagenbau (VDMA)
- WaterBorne TP

<p>Standardisation organisations</p> 	<ul style="list-style-type: none"> • International Organisation for Standardisation (ISO) • Finnish Standards Association (SFS) 	<p>Participation in activities.</p>
<p>International and EU organisations</p> 	<ul style="list-style-type: none"> • Digital Transportation Logistics Forum (DTLF) • European Ports Forum (EPF) • European Sustainable Shipping Forum (ESSF) • Global Compact Nordic Network (GCNN) • Global Industry Alliance (GIA) • International Maritime Organization (IMO) 	<p>Participation in activities through national delegations and other organisations: IMO. Participation in activities: DTLF, EPF, ESSF, GCNN, GIA.</p>
<p>Other</p> 	<ul style="list-style-type: none"> • Climate Leadership Coalition (CLC) • European Energy Forum (EEF) • Finnish Business & Society (FIBS) 	<p>Board membership: CLC. Membership and participation in activities: FIBS, EEF.</p>

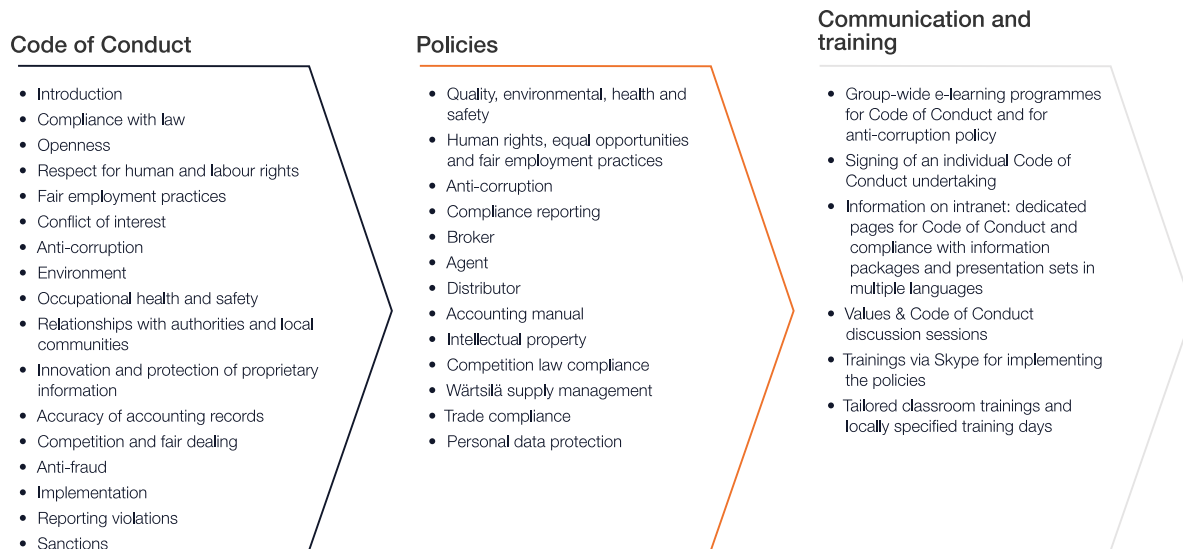
Guiding principles

Wärtsilä’s Code of Conduct defines common rules for all employees, and provides guidance on Wärtsilä’s approach to responsible business practices. The key areas of the Code of Conduct include: compliance with laws, transparency and continuous stakeholder dialogue, respect for human and labour rights, fair employment practices, anti-corruption, anti-fraud, and data privacy.

Implementing the Code of Conduct

Group-wide Wärtsilä policies complement the Code of Conduct and the commitment to maintain the highest legal and ethical standards in everything we do. The Quality, Environmental, Health and Safety Policy sets principles for managing the environmental impacts of our products and services. The policy on human rights, equal opportunities and fair employment practices creates a common framework for employee practices in all group companies. It

covers the following issues: human and labour rights, equal opportunities, well-being at work, non-harassment, and remuneration. The Corporate Manual also includes other policies, such as anti-corruption, compliance reporting, and supply management policies. The purpose of the manual is to safeguard compliance with relevant legislation, and to provide further guidance concerning daily business conduct.



We take an active approach to the application of the Code of Conduct, and promote its implementation through effective communication and training programmes for our employees. Application of the Code is monitored internally. We also have an externally hosted whistleblowing channel for all employees to report potential misconduct relating to the Code of Conduct or other Wärtsilä policies. Such reporting can be made anonymously and in 16 languages.

Suppliers and business partners are an important and integral part of the total value chain of our products and services. They are expected to conduct their businesses in compliance with the same high legal and ethical standards and business practices as Wärtsilä. Our supplier requirements and supplier management system are presented in the [Supply chain management](#) section. We monitor the actions of our suppliers and business partners, and have a stringent pre-qualification and monitoring programme for all sales intermediaries complemented with a tailored e-learning programme.

The Values and Code of Conduct programme

We execute a Values and Code of Conduct programme, which includes various actions to strengthen the ethical culture of our company. The programme elements include Wärtsilä Values and Code of Conduct discussion modules, the signing of an individual Code of Conduct Undertaking, an e-learning programme, and inclusion of the Code of Conduct topic into the annual development discussions covering all employees. The purpose of the Values and Code of Conduct discussions is to create a common understanding and to strengthen the values and principles of the Wärtsilä Code of Conduct. Additionally, every employee is required to sign a personal undertaking letter indicating that they have read the Code of Conduct and that they commit to complying with its contents in their work.

Discussion sessions to reinforce ethical culture

At Wärtsilä, we want to have the best possible working culture, and to help employees make the right decisions in their everyday work based on our values and ethical principles. To reinforce this, in 2019 we launched the "Wärtsilä Values and Code of Conduct Discussion Session" to all employees.

These mandatory sessions were arranged as team discussions, and were led by line managers using an online digital workbook in 13 languages. The sessions included introductory videos and case scenarios, and were designed to complement the Code of Conduct e-learning through team discussions on applying our common principles and ethical issues in daily work activities.

Altogether, more than 13,000 employees completed the session in 2019, and the overall feedback was positive. The majority of respondents to the feedback survey felt that the programme promoted active discussions, and increased their willingness to address ethical questions in the future.

Code of Conduct

Introduction

Wärtsilä is committed to carrying out its business in a sustainable way. In order to promote the long-term interests of Wärtsilä and its stakeholders, the company strives to maintain the highest legal and ethical standards in all its business practices. Each employee is expected to act responsibly and with integrity and honesty, and to comply with this code and its underlying policies and instructions.

Compliance with laws

All business and other activities of Wärtsilä shall be carried out strictly in compliance with all applicable laws and under the principles of good corporate citizenship in each country where such activities take place.

Each employee is expected to comply with the requirements of those laws and regulations that apply to Wärtsilä's operations and to his/her job and with the Wärtsilä principles of good corporate citizenship.

Openness

Wärtsilä promotes openness and transparency as well as continuous dialogue with its stakeholders, including customers and other business partners, shareholders, personnel, authorities, local communities, and the media. Stock exchange rules and competitive considerations may, however, in some cases restrict such openness and transparency.

Wärtsilä strives to be honest and accurate when communicating with its stakeholders, and also Wärtsilä employees shall make their statements in accordance with this principle.

Respect for human and labour rights

Wärtsilä supports and respects the protection of human rights as defined in the United Nation's Universal Declaration on Human Rights. No employee is allowed to take any action that violates these human rights principles, either directly or indirectly.

Wärtsilä supports basic labour rights as defined by the International Labour Organization. In this respect, Wärtsilä upholds the freedom of association and the effective recognition of the right to collective bargaining. In the case that these rights are restricted by local law, Wärtsilä endeavours to offer its employees alternative means to present their views. Wärtsilä does not accept any form of forced or compulsory labour, or the use of child labour.

Fair employment practices

Wärtsilä promotes freedom from discrimination based on race, ethnic or national origin, colour, gender, family status, sexual orientation, creed, disability, age, political beliefs or other characteristics protected by law. Wärtsilä fosters equal opportunity and our employees are selected and treated on the basis of their abilities and merits.

Wärtsilä does not accept any form of discrimination, harassment or bullying from its employees.

Occupational health and safety

Wärtsilä endeavours to create hazard-free workplaces for its employees, contractors and others working in various locations by applying high standards of occupational health and safety. Wärtsilä strives to assure the safety of its products and solutions through its world-class product and solution development processes.

Each employee is responsible for complying with the safety instructions, for using personal protection equipment when required, and for reporting on any shortcomings regarding safety instructions or protection measures.

Conflicts of interest

Wärtsilä expects full loyalty from its employees. Employees must avoid situations where their personal interests may conflict with those of Wärtsilä. This means, for instance, that employees are not allowed to accept gifts or entertainment from a stakeholder, except a gift or entertainment of a minor value given on an occasional basis, providing it does not create a conflict of interest situation.

Anti-corruption

No Wärtsilä company or any of its employees may, directly or indirectly, promise, offer, pay, solicit or accept bribes or kickbacks of any kind, including money, benefits, services or anything of value. Such payments and favours may be considered bribery, which violates local legislation and internationally recognised principles for combatting corruption and bribery.

Environment

Wärtsilä's target is to develop and produce for its customers environmentally advanced solutions and services that fulfil essential requirements, such as low emissions and high efficiency. Efforts are made to achieve sustainable development by means of raw material selection, processes, products, wastes and emissions through the use of the latest technical advances. Each employee shall comply with the policies and instructions regarding environmental protection.

Relationship with authorities and local communities

Wärtsilä maintains constructive co-operation with authorities and regulatory bodies, at both local and international levels. Wärtsilä seeks to play a role in serving the needs of the local communities whenever possible.

Innovation and protection of proprietary information

Wärtsilä supports and encourages innovation by its employees in all areas of its activities.

Wärtsilä's intellectual property is one of its most valuable assets, and the patents, trademarks, copyrights, trade secrets, and other proprietary information of Wärtsilä must be protected. At the same time, each Wärtsilä employee must respect the intellectual property rights of others.

Accuracy of accounting records

Wärtsilä accounting records must be accurate and reliable in all material respects. Unrecorded funds are prohibited. The records must not contain any false, misleading, or artificial entries.

Competition and fair dealing

Competition laws aim to protect consumers and businesses against unfair business practices. Each employee shall comply with those laws. Actions such as participation in cartels, abuse of a dominant position in the market place, or the exchange of price or other commercial information between competitors are prohibited. Wärtsilä employees should be sensitive to competition concerns when attending occasions where competitors, or potential competitors, can be present.

Anti-fraud

Wärtsilä does not tolerate fraudulent behaviour or activities, such as embezzlement, fraud or theft. Such violations will lead to immediate termination of employment and are subject to criminal sanctions.

Implementation

Wärtsilä takes an active approach to the application of this Code and promotes its implementation through the effective communication of its contents to employees. Wärtsilä monitors the application of this Code internally.

Suppliers and business partners are an important and integral part of the total value chain of the products and services of Wärtsilä. They are expected to conduct their businesses in compliance with the same high legal and ethical standards and business practices as Wärtsilä. Wärtsilä promotes the application of this Code by monitoring the actions of its suppliers and business partners.

In the case that questions arise regarding the interpretation of, or compliance with, this Code, Wärtsilä Legal Affairs should be contacted.

The application of the Code will be reviewed from time to time by the Board of Management, which may decide on necessary revisions or interpretations.

Reporting violations

Any Wärtsilä employee becoming aware of a potential violation of this Code must contact his or her superior or Wärtsilä Legal Affairs. The president of the respective subsidiary must be informed, unless he or she is party to the alleged violation, in which case the Group General Counsel of Wärtsilä Corporation must be contacted. Wärtsilä will investigate all reported matters with discretion. Wärtsilä shall not take any adverse actions as a result of such reporting against any employee reporting in good faith what he or she believes to be a violation of this Code.

Sanctions

Violation of this Code may lead to a warning, the termination of employment, and the payment of damages. Additionally, certain violations of a criminal nature can lead to criminal sanctions, such as fines or imprisonment.

Quality, Environment, Health and Safety Policy

Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets.

Protecting the environment, enhancing customer business, and contributing to a sustainable future is the essence of what we do. Our solutions and operations are safe, reliable, efficient, environmentally sound, and compliant with regulatory and other applicable requirements.

We give the highest priority to preventing occupational injuries and illnesses by assuring safe and healthy workplaces in all of our business operations, and we authorise work to be stopped if conditions are considered unsafe, or if quality is being compromised.

We set objectives and continually improve our QEHS performance. We actively eliminate defects and hazards, and reduce QEHS associated risks.

We communicate and consult with employees and other relevant stakeholders to ensure that our QEHS practices are enforced and constantly improved.

Our skilled organisation acts as a responsible global citizen.

Policy on human rights, equal opportunities and fair employment practices

Human and Labour Rights

Wärtsilä supports and respects the protection of internationally proclaimed human rights, as defined in the United Nation's Universal Declaration on Human Rights, ILO standards, and the UN Global Compact principles.

Wärtsilä supports basic labour rights as stated by the International Labour Organization. In this respect the Group upholds the freedom of association and the effective recognition of the right to collective bargaining. In case these rights are restricted by local law, the company endeavours to offer personnel alternative methods to present their views. Wärtsilä does not accept any form of forced and compulsory labour or the use of child labour.

Wärtsilä complies with local legislation, regulations and agreements concerning human rights, employment and equal opportunities, including all laws pertaining employee data privacy, immigration, working time, wages and hours and employment discrimination. Temporary and part-time employees are offered the same benefits as permanent employees according to local legislation and collective agreements.

Wärtsilä applies European Union directives, local acts of cooperation in the companies and corporations, collective agreements, and equivalent regulations concerning consultation and local bargaining.

Equal opportunities

Wärtsilä is committed to fostering equal employment opportunities, in which individuals are selected and treated on the basis of their job-relevant merits and abilities and are given equal opportunities within Wärtsilä.

Wärtsilä's policy is to treat all employees equally on the basis of their merits, without discriminating them on the basis of their race, ethnic or national origin, colour, gender, family status, sexual orientation, creed, disability, age, or political beliefs.

Employee benefits and remuneration

The basic principle for remuneration in the company is to pay the same wage for the same job and the same performance. The salary is meant to be just, fair, and encouraging. Differences in individual salaries are based on how demanding the job is, on differences between competence, work experience, and performance, and not on gender.

In general, temporary and part-time employees are offered the same benefits as permanent employees. In some countries, eligibility is linked to months or years of service – such differences being typically based on collective agreements according to local legislation.

Individual salaries are reviewed once a year in connection with the performance review and in the framework of annual salary increase guidance. The company may pay employees an annual bonus in accordance with company rules and based on separate bonus agreements. Based on financial and individual performance, the bonus outcome is determined once a year. Employees may be paid a spot bonus based on exceptional performance. Benefits, such as a company car, service year award, and well-being, fitness, and health services, are planned and implemented locally taking into account both company guidelines and national practices.

Minimum notice period

Wärtsilä complies with European Union directives, local acts of co-operation in the companies and corporations, collective agreements and equivalent regulations concerning consultation and local bargaining. Concerning the termination of employment, Wärtsilä respects national labour union agreements and employment legislation.

In the case of occurrences having significant business or social implications, such as personnel redundancies, the transfer in full or part of production facility location, structural changes, as well as transnational effects, the EWC Working Committee and/or local employee representatives are consulted before decisions about such matters are made or, if that is not possible, as soon as possible. The objective is to provide information about any significant operational change at the time of planning.

Competency management

Wärtsilä's Competency Management and Development frame is a structured way to carry out long-term competence development plans within our businesses and functions. Wärtsilä has defined 16 global job families consisting of generic job descriptions for seven different demand levels. In the job description, the most critical competencies of the job are defined and used as a basis for individual position competence requirements. Typically, in the connection of annual development discussion, individual competencies are assessed against the job requirements and position profile. Competence assessment of our employees and a comparison with competence targets allow us to analyse competence gaps and create development plans accordingly.

All learning and development activities in Wärtsilä strive to develop, maintain, and renew the short- and long-term skills and competencies required to fulfil our strategy. Having the right competencies available at the right time and being able to continuously adapt to a changing business environment are critical success factors for Wärtsilä.

Consultation and information procedures in Group companies

Wärtsilä's procedures for consultation and information within the Group are arranged in each country according to local legislation. Wärtsilä's Code of Conduct calls for ongoing and open dialogue between the company's management and employee representatives through co-determination bodies, and employees are kept informed of both the Group's situation and that of their particular company. Company management and personnel engage in an open discussion also in those countries where there are no formal co-determination bodies as such. Regular briefings for personnel are an integral part of the operating procedures of Wärtsilä companies. Employee participation in decision-making also extends to occupational health and safety (OHS). Most Wärtsilä units have an OHS committee with representatives from all personnel groups.

In addition to Wärtsilä's procedures for consultation and information for employees at the local level, the European Works Council (EWC) handles issues that affect at least two companies located in the EU and the Group as a whole. The EWC and its working committee play an active role in considering and pursuing transnational issues.

Dialogue at the individual level is conducted through development discussions, which are held at least once a year. The subjects covered in these discussions range from the Group's and business unit's targets to the individual's job description, competence development, career alternatives, personal targets, and feedback. Development discussions are by definition held with all employees.

Employees are able to have a direct impact on the company's operations and their development by making suggestions. Each Wärtsilä employee can offer suggestions for improvement in operations either through the continuous improvement process (CIP) or by submitting private initiatives. CIP-proposals are discussed jointly and need a common decision to be put into effect. Individual initiatives are evaluated by experts within the company and, if found to be feasible, are put into effect. Another global channel for new ideas is SPARK, a Wärtsilä-wide collaborative innovation platform which enables the handling of ideas in a transparent and efficient way, and gives all Wärtsilä employees the opportunity to be a part of the ideation process.

Business performance updates are given to all personnel on a regular basis in connection with Wärtsilä interim reporting. The company intranet "Compass" and the employee magazines are the common global channels for internal communication.

Recognition of excellent performance

Wärtsilä encourages its employees to be innovative by granting an annual Technology and Innovation Award either to an individual or to a team for the best technical innovation of the year. The award criteria are that the invention must be innovative and environmentally sound, it must represent leading technology, improve a product or process, and offer potential for cost savings. Wärtsilä also grants annually a Customer Care Award for a team or individual who actively participated in the initiatives leading to development of business operations, quality improvements in how we serve and partner with customers, customer satisfaction, or Wärtsilä values demonstration.

Management system

Wärtsilä's management system aims to generate added value for Wärtsilä's various stakeholders, achieve the company's strategic objectives, support sustainability performance, manage operating risks, and enhance Wärtsilä's performance through the continuous improvement process. The system includes a range of tools, such as systems for managing quality, the company's environmental responsibilities, and occupational health and safety. Management reviews are conducted at various levels of the organisation to monitor the effectiveness of the system, the achievement of targets, and the development of key performance indicators. Wärtsilä's processes are developed in the Businesses, the Business lines, and the Functions. These development projects are governed by Group Control Development meeting and OD Portfolio Management Team, Wärtsilä Presidents' Quality Reviews and the Functional Management Teams.

Wärtsilä's Board of Management is responsible for defining the company's main strategies, principles and policies, and for the management system itself. The Board of Management regularly monitors the effectiveness and performance of the management system. Responsibilities are distributed to the line organisation at all levels of the company, and the management system defines a specific sphere of responsibility for each Wärtsilä employee. Work groups for developing the management system are appointed at the corporate level and in most Wärtsilä subsidiaries. At the Group level, the following work groups coordinate the development of product and operational issues:

Work group	Focus	Main tasks
Wärtsilä Presidents' Quality Review	Quality	Overall responsibility for Wärtsilä's quality, quality process improvement, and achievement of strategic quality goals.
Group Control Development meeting	Strategic operational development	Overall responsibility for Wärtsilä's operational development and the operational development plans and governing the work of IM and Process development.
Business Line Quality Reviews	Quality	Support and oversee quality development based on customer perception of our quality and full end-to-end lifecycle view. Platform for focusing on the key improvement areas with the biggest impact to our customers. Cross-functional decision making to increase efficiency and shorten resolution lead time.
Wärtsilä OD Portfolio Management Team	Operational development	Operational development road map, targets, and guidelines based on business strategies and targets, and overall operational development process responsibility for the approval of the Wärtsilä Controllers' Team. Cross-divisional operational development alignment and harmonisation.
Wärtsilä QEHS Management Team	Quality, Environmental, health and safety and security (QEHS)	Overall responsibility for Wärtsilä QEHS, QEHS management system development, corporate level QEHS measuring and target setting, and monitoring of legislation developments.

Management systems

Proportion of Wärtsilä companies with certification	
Quality (ISO 9001)	90%
Environment (ISO 14001)	67%
Occupational health and safety (ISO 18001)	67%

People management

Wärtsilä's People Strategy, as an integral part of group strategy, supports the company's businesses in the successful implementation of their ambitions. This is achieved by developing the company employee skills, its organisation, competencies, and way of working to meet both current and future business needs.

The key focus areas of the people strategy are talent and leadership development, culture, and performance excellence. Talent actions are aimed at ensuring that the businesses have people with the required skills and motivation at their disposal. Continuous learning, competence development and growth, as well as the flexibility to evolve the organisation and its ways of working, strengthen the company's competitive advantage. The ongoing development of the company's leaders' and people's development skills are integral to driving the company's business agenda in an evolving marketplace, and for maintaining a relentless focus on providing value to customers and stakeholders.

Strengthening accountability and ownership is encouraged by promoting employee engagement through a culture of open communication, integrity, and innovation. At the same time, Wärtsilä emphasises high performance and operational excellence throughout the organisation, including quality in the setting of targets, proper and regular feedback, the evaluation of overall performance, and recognition of outstanding performance.

Talent and leadership development

At Wärtsilä, equal opportunities and opportunities for professional and personal growth are core principles. The company empowers its employees by providing self-paced learning, and through encouraging people to drive their own career path to stay relevant and thrive in a rapidly changing business environment. Recruiting and retaining the best talent enables Wärtsilä to be a valued business partner to its customers, and the employer of choice for current and future employees.

In late 2018, Wärtsilä launched its new recruitment system, and with this and other development activities, increased the candidate experience significantly, helping Wärtsilä to attract new talent and promote the company as an employer of choice. This was demonstrated through a feedback survey to job applicants and hiring managers, where overall satisfaction was shown to be significantly positive. Candidates rated their overall experience at an average of 4.3 (out of 5), while hiring managers rated their hiring experience at an average of 4.1 (out of 5).

In 2019, developments were seen also in Employer Branding with these developments being translated into the people domain, resulting in a renewed tone of voice. This helps Wärtsilä to represent itself as an employer, and to better communicate about itself and its purpose.

In 2019, Wärtsilä continued its leadership development activities in many areas, with the aim of supporting line managers in their people development and leadership roles. Much focus is put on developing more virtual learning solutions to increase the flexibility and ease of access to learning, while saving both time and cost, and reducing emissions in line with our purpose. A new leadership development programme for senior managers was launched

mid-2019, with the focus on creating a Wärtsilä culture that builds and sustains high performance. The programme contains elements related to leading high performing teams, leadership and performance excellence, and customer centricity.

The Growth Lab programme continued with the fourth cycle commencing in August 2019. Twenty Wärtsilä managers and future leaders, with 7 to 15 years' work experience, were selected for this action learning programme based on applications. The participants selected three projects of strategic importance which were approved by the Board of Management. These projects are aimed at analysing and building possible future business opportunities. The fourth Growth Lab programme will end at the end of April 2020.

Wärtsilä's HR organisation has developed the Operational Excellence Academy learning framework, and an Operational Excellence learning portal, with supporting materials for all employees in the organisation involved in leading operational excellence initiatives. Close to 2,500 Wärtsilä managers and employees have participated in the programme between 2016 and 2019. The aim of the OE Academy is not only to learn, but to establish operational excellence as an integral part of the company culture and way of working, and to ensure continuous efficiency improvement.

Learning on the job, self-learning, mentoring, coaching, job rotation, and assignments designed to encourage competence development and the sharing of competence and skills by experienced employees with their junior colleagues, are integral to the development of knowledge and competence within the company. Employees are given formal classroom learning opportunities at all organisational levels; from induction for new employees, to learning programmes for the company's top executives. Wärtsilä employees attended a total of 39,017 formal learning days during 2019; an average of 2.07 formal learning days per employee. Aside from formal learning in the classroom, and in line with living our purpose, there is a strong emphasis on and attention to the continued development of virtual learning solutions, and providing learning on the job through new ways of working.

Transforming company culture

Together with the company's business transformation initiatives, Wärtsilä promotes new ways of working and a company culture that is defined for a changing world. Wärtsilä's purpose drives all activities, and the company's values of "Energy, Excellence and Excitement" are strengthened by the diversity of its employees. Wärtsilä aims to capture opportunities and make things happen, to do things better than any of its competitors, and to foster openness, respect, and trust while creating an exciting work environment. A diverse workforce generates innovation, higher profits, has better complex problem-solving skills, and enables access to a larger talent pool.

Wärtsilä embraces collaboration and co-creation in order to succeed in a complex and uncertain business environment, while maintaining individual accountability. Purposeful sharing and working transparently as one brings value, both internally and externally. Exploring and adopting new ways of working that foster collaboration and sharing form part of the transparent and inclusive approach.

"A diverse workforce generates innovation, higher profits, has better complex problem-solving skills, and enables access to a larger talent pool."

MyVoice is the Wärtsilä employee engagement survey, whereby all Wärtsilä employees are invited to give their feedback. MyVoice has been conducted globally since 2004. Since its introduction, MyVoice has proven to be an important means for developing our way of working and strengthening our culture.

In 2018, the survey was updated to better meet our current needs. The survey covers 5 different subject areas: Leadership, Culture, Work, Development and Customer Orientation. The renewed survey is shorter and gives more attention to engagement and motivation. It is completely online and available on mobile devices. The survey will be conducted globally once a year in the future, instead of every two years as it was earlier. The new MyVoice survey is available in 17 languages and was conducted in January 2019 with a participation rate of 82.3%, with close to 16,000 employees responding.

From the results it is clear that the majority of Wärtsilä colleagues across the world are inspired by the company purpose, and feel that their work is meaningful. In addition, safety continues to be a top priority and as a result, a separate MyVoice Safety Pulse survey was conducted in September 2019 to get greater insight into this topic.

Performance excellence

One of the essential elements of Wärtsilä's People Strategy is to embrace and develop performance excellence throughout the organisation. Coaching to achieve better performance through smart target setting, together with continuous and real-time feedback, is central to this aim.

A well-executed performance management process supports Wärtsilä in reaching its business targets by translating business strategies into team and individual objectives. Each Wärtsilä employee needs to know and understand Wärtsilä's business strategies and their goals. More importantly, everyone needs to know the main targets set for their own units, and the target areas related to their own work. Greater attention has been given to the quality and impact of the process by emphasising the importance of continuous feedback, clarifying expected behaviours, and creating opportunities for both professional and personal growth.

Good coverage of the annual development discussions has continued globally, with 91% coverage being achieved in 2019. The performance management process supports line managers in their daily leadership roles. Each employee receives performance feedback, and an evaluation based on their overall job performance, as well as a personal development plan for the future. Overall performance evaluation is one of the considerations in compensation decisions, and is in line with the principle of performance-based rewarding.

Wärtsilä Human Resources works to create a compelling employee experience by developing its people processes, tools, and ways of working across national and organisational boundaries. This includes investing in technologies and tools that enable quick access to online reports, employee information, and annual compensation planning for both local and multi-country teams.

In the area of robotic process automation (RPA), Wärtsilä Human Resources has altogether 12 bots currently in production across different people processes, such as recruitment, rewarding, international mobility, reporting, time management, and data quality assurance. Bots do invisible work behind the scenes, which reduces a great deal of manual work, and in fact, makes it possible for professionals to focus more on value-adding tasks.

People analytics is an area of growth and innovation for Wärtsilä Human Resources. In 2019, a number of HR and management team dashboards were created. These make data more tangible, and support data-driven decision making, while facilitating discussions on people topics and business performance.

The company's organisation and ways of working continue to evolve. In 2019, the focus has been on providing added value to customers in a competitive market situation by reducing complexity in the company's structure, enabling faster decision making, and providing clarity on roles to encourage ownership and accountability. Embracing proactive change management and ongoing communications have been critical elements of this approach. Agile ways of working, design thinking, and a data-driven mindset are encouraged when understanding the customers' businesses, their changing needs, and being able to deliver value to them.

Environmental management

One of the main objectives in our purpose of "enabling sustainable societies with smart technology" is to strive towards a clean and low-emission future. Our environmental management practices give full support to reaching this goal.

For Wärtsilä, environmental responsibility has two dimensions: products and operations. Most of the efforts to improve our environmental performance, including our operations, are conducted as part of the product development and improvement processes. This work is supported by operational measures, which are based on achieving high environmental standards and which seek constant improvement.

Environmental management in Wärtsilä



The continual improvement in environmental performance requires us to consistently work in a systematic way. This work is guided by our strategy and environmental targets, our [Code of Conduct](#), as well as [policies relating to Quality, Environment, Health and Safety](#), coordinated and monitored by the cross-business [QEHS Management Team](#). In developing our operations, processes and products, we endeavour to utilise the latest technologies available for improving efficiency in areas such as material and energy consumption, as well as for reducing and managing emissions and waste throughout the lifecycle of our products and services.

Operations and products are continuously developed and improved with the help of certified environmental management systems. The principle means is to apply certified Environmental, Health and Safety (EHS) management systems based on ISO 14001 and OHSAS 18001 in all Group companies, excluding those companies focusing purely on sales. Our EHS management systems cover all operations carried out by our subsidiaries. This promotes environmental protection and allows the reduction of adverse impacts to be carried out on a wide front.

Implementing environmentally sound cladding technology

In 2018, Wärtsilä introduced a new robotised laser cladding technology (QS50K™) for reconditioning of large bore pistons in 2-stroke engines. This technology is now replacing traditional chrome plating in which environmentally hazardous hexavalent chromium is used. During 2019, Wärtsilä discontinued chrome plating in four service centres, and launched the new robotised and environmentally sound cladding technology in two service centres.

Our EHS management system emphasises compliance with legal requirements, identifying and reducing environmental impacts and risks, training personnel and clearly defining their responsibilities, the full documentation of activities and procedures, actions to be taken in emergencies, and the continuous improvement of environmental performance. Our subsidiaries and business units set their own targets for covering the significant environmental aspects of their operations, and for monitoring the overall performance of their management systems.

At the end of 2019, 55 Wärtsilä companies operated with a certified environmental management system. These certified environmental management systems cover roughly 82% of our total workforce.

Occupational health and safety

Safety is one of Wärtsilä's main values, and we are committed to creating and maintaining a safe and healthy workplace for our employees and partners wherever we operate. We emphasise safety in our drive towards zero injuries by applying high standards of occupational health and safety, and by implementing action-orientated safety programmes and practices.

Environmental, Health and Safety Management

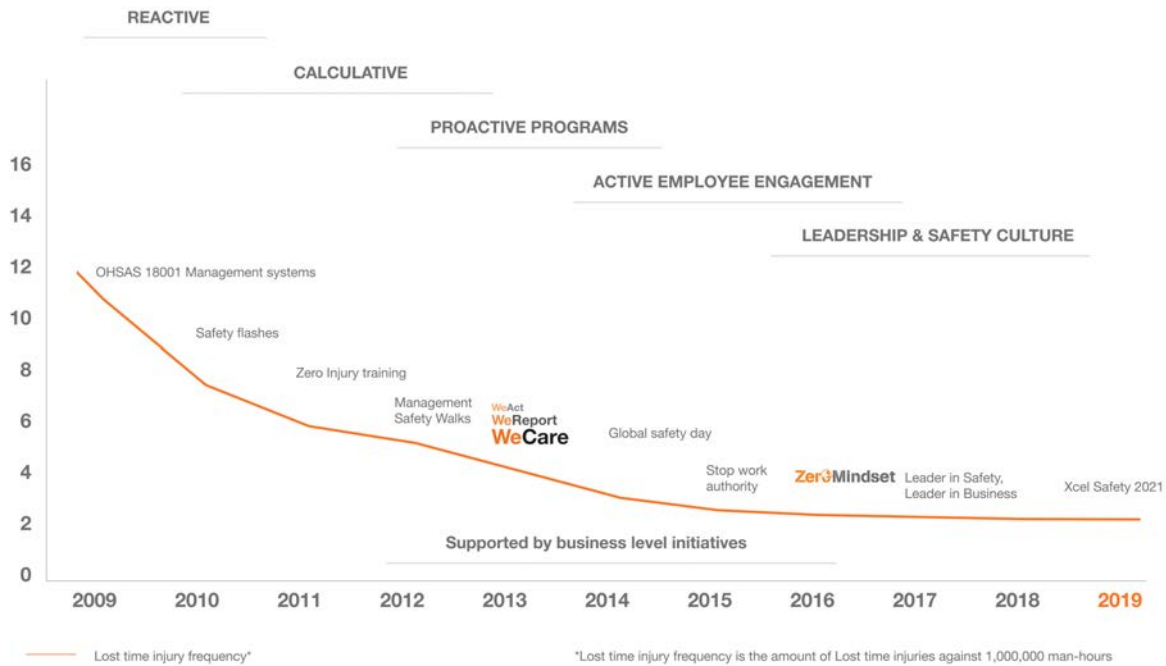
Wärtsilä's occupational health and safety principles are defined in the [Code of Conduct](#), the company's [Quality, Environmental, Health and Safety \(QEHS\) Policy](#), and in the directive on environment, health, and safety (EHS). Wärtsilä's subsidiaries are required to have a management system in place that conforms to both the QEHS Policy and the EHS directive. The main aspects of the management system relate to compliance with legislation, identifying and minimising occupational health and safety risks, personnel training, implementing effective health and safety programmes and instructions, recording and investigating occurred incidents, and the continual improvement of occupational health and safety performance. At the end of 2019, 55 Wärtsilä companies, representing roughly 82% of Wärtsilä's total workforce, were operating with a certified occupational health and safety management system in place.

In addition to the management system, Wärtsilä companies also apply occupational health and safety programmes as required by local legislation. These are normally developed by occupational health and safety committees made up of company management and personnel representatives. Altogether, 85% of all Wärtsilä companies currently have an occupational health and safety committee.

The indicators used to measure occupational health and safety performance include the number of accidents, the time of absence due to sickness, the frequency of accidents, and the number of near miss / hazard observation reports. Wärtsilä has set a [corporate level target of achieving zero injuries](#). This target is a long-term commitment from the company to strengthen the safety culture, and it requires actions from all Wärtsilä companies and employees. The safety performance of each company is monitored on a monthly basis, and the results are reviewed by the Wärtsilä Board of Management.

Safety measures in 2019

In the beginning of 2019, the Board of Management initiated an Xcel Safety 2021 programme and set the challenging target of cutting Lost Time Injury Frequency by 50% by the end of 2021. The main drivers for this safety programme are the introduction of action-driven safety management practices, boosting the company's safety culture, and empowering Wärtsilä's safety network. As a practical step during 2019, 3,900 employees participated in a "Champions in Safety" training programme to enhance their personal risk awareness, and to take concrete actions to prevent accidents. Implementation of the training continues in 2020. In 2019, Wärtsilä also conducted a global safety culture survey aimed at initiating team discussion and action planning on different organisational levels.



Safety Day 2019: Reinforcing Wärtsilä's life-saving rules

Wärtsilä conducted its annual worldwide Safety Day on 14 March 2019. Employees throughout the company spent time focusing on the company’s 10 life-saving rules and testing how well they can be applied in different scenarios. For example, employees in Norway discussed which safety rule was the most important for them, while the office in India held a drawing competition. In other offices, life-saving rules were emphasised using practical demonstrations. Confined space entry was explored in Spain, and employees in Finland tested how it feels to be in a car during an emergency stop situation.

Throughout the company, Wärtsilä employees were involved in interactive exercises and team building in a relaxed atmosphere. In addition, a contest for the best safety tip video was launched, which resulted in dozens of videos being posted on Yammer. Employees actively voted for the best safety tip video, and many local offices carried out their own contests.

In addition, Wärtsilä held its fifth global Safety Day on 14 March 2019 at Wärtsilä locations all around the world. The objective of the Safety Day event was to re-enforce Wärtsilä’s life-saving rules, and to empower our people to act if they see behaviour that is inconsistent with the rules.

Introduced activity	Description
Lost time injury tracking and targets	Safety performance is reviewed on a monthly basis by the Board of Management, and targets are set on a yearly basis.
OSHAS 18001 Management systems	QEHS Management is certified based on the OHSAS 18001 standard within the business organisations.
Safety Flashes	Safety flash reports are lessons learned from occurred injuries and near misses, and are distributed globally within the organisation.

Zero Injury Training	Global training consists of e-learning (4h) and a practical workshop (4h).
Management Safety walks	A leadership tool that involves holding conversations on safety with employees.
Global Safety Day	An annual safety celebration that takes place throughout the Wärtsilä network. The theme changes every year.
Stop work authority	Wärtsilä QEHS policy authorises everybody to stop work in unsafe situations.
Leader in Safety, Leader in business	A leadership safety engagement training programme for all line managers and employees who have direct impact on front line operations. Duration is for one day.
Xcel Safety 2021	The Xcel Safety 2021 programme sets the challenging target of cutting the Lost Time Injury Frequency by 50% by the end of 2021. The programme has new elements, such as action-orientated safety management, actions to boost a positive safety culture, and empowerment of the safety network.

Responsible business conduct

Human and labour rights

Wärtsilä supports and respects basic human values as outlined in the UN's Universal Declaration of Human Rights. We also support the Ten Principles of the UN Global Compact, of which six principles are related to Human and Labour rights.

Wärtsilä's employees represent approximately 140 nationalities. We support fair and equal treatment of all our employees and the work-related rights defined by the International Labour Organization. Therefore, we work to ensure that there is freedom of association and right to collective bargaining in the company. In those countries where local legislation does not recognise these rights, employees are offered other channels for expressing their opinions.

We do not accept the use of forced labour or child labour in any form. Human and Labour rights are a part of the Wärtsilä Code of Conduct training material and also the Wärtsilä Supplier Handbook. At the end of 2019, 94% of Wärtsilä's employees had successfully completed the Code of Conduct training.

Preventing corruption and bribery

Wärtsilä's Code of Conduct, Anti-Corruption Policy, as well as specific policies implemented for sales intermediaries, namely Agent, Broker and Distributor Policies, expressly prohibit the company and its employees from offering or accepting any kind of benefit considered to be a bribe and from taking actions that could give rise to a conflict of interest or breach of loyalty. The policies make it compulsory to comply with anti-corruption laws of all the countries in which we do or intend to do business and urge the reporting of any cases of corruption and bribery. We maintain an extensive training programme mandatory for all employees on anti-corruption principles and applicable legislation as well as the relevant company policies and procedures. At the end of 2019, 87% of Wärtsilä's employees had successfully completed the Anti-Corruption training.

Political lobbying

Wärtsilä's policy is to engage in an open dialogue and discussion with both local and international public authorities and officials. The aim of the dialogue is to share information and improve the quality of regulation. We participate in

public consultations in the areas of importance to the company. Wärtsilä is registered on the Transparency Register of the European Commission.

Competition regulation

We have in place a competition compliance programme for managing risks relating to competition law, and our management is strongly committed to implementing this programme. The cornerstone of the programme is a competition law policy, which is kept up-to-date, providing information on competition rules and guidelines for our personnel. The competition compliance programme builds upon an e-learning module, based on the competition law policy. In addition, competition compliance trainings were held in 2019 for relevant personnel in order to promote knowledge of competition laws and compliance therewith.

Security management

Wärtsilä has a corporate security policy and various guidelines, which incorporate human rights considerations and international best practices. Our security management principles and strategies are reviewed and approved in the Wärtsilä Security Steering Group, which consists of Presidents of each Business, Executive Vice President for Corporate Relations and Legal Affairs, as well as Finance and Control and security professionals. Security management in Wärtsilä is divided into six specific security areas: Personnel, Premises, Information, Cyber, Crisis Management, and Travel Security. Operational security management in these areas is implemented on the business and local level. We prefer security service providers who are members of ICoCA (International Code of Conduct Association).

Local community approach

We aim to contribute towards the well-being of local communities in which we are present. This can be reached, for example, by creating employment, paying taxes and social dues, providing training and education to employees, co-operating with local stakeholders, and by supporting local development.

The guiding principle of our Code of Conduct is to promote openness and good interaction with our stakeholders locally. This applies as much to the families of personnel, our neighbours, educational institutions, and the media, as to local authorities and officials. The methods used towards this end include Open Door days, press briefings, and different modes of communication for different target groups.

As a truly international company, we have delivered solutions to more than 170 countries. We support our solutions globally during their entire lifecycle, often spanning up to 30 years. Thus, we can at times be present in countries facing various uprisings, ethnic conflicts, area disputes, or violations of human rights. Conducting business locally emphasises the importance of responsible business practices. Governments and the international community define the proper framework for companies to conduct their business. Wärtsilä complies with relevant legislation and international conventions. We comply with all relevant guidelines of the OECD and the International Chamber of Commerce, and with the sanctions set by the United Nations and the European Union, by supporting their implementation.

Wärtsilä's impact on employment, the public sector, and the company's activities for charitable purposes are described in the Economic Performance section of this report. Measures to evaluate the impacts on local communities in case of operational changes of Wärtsilä subsidiaries are determined case by case.

Product design principles

Wärtsilä strives to develop environmentally sound, safe, and reliable products and solutions for its customers. By providing lifecycle maintenance, reconditioning, and retrofitting services, we are able to support our customers' operations throughout the life of our products. The reconditioning of engines and components increases their reliable service life, while modernising improves the current operational performance of installations and enables customers to meet tightening future regulatory requirements.

In order to ensure our ability to respond to future regulation stipulations, we actively monitor legislative initiatives and changes in environmental legislation. As a result, we have focused our R&D activities on the development of new environmentally sound products and solutions in order to meet the evolving demands of a changing operating environment.

Meeting regulatory requirements

The majority of international environmental policies and requirements for Wärtsilä's products and solutions are set by the International Maritime Organization (IMO) and the International Finance Corporation (IFC) – a member of the World Bank (WB) group. On the regional or national level, organisations such as the United Nations Economic Commission for Europe (UNECE), the European Union (EU) and emission standards such as in the USA, Germany, Japan, and India, are also important policy and regulatory directors for Wärtsilä products.

The IMO is responsible for adopting its own standards for the safety and security of shipping, and the prevention and control of marine pollution and emissions from vessels. The IMO regulates nitrogen oxide emissions and fuel sulphur content, as well as ballast water treatment procedures and limitations. Wärtsilä's engines are designed to meet the requirements of the EU Machinery Directive, the IMO Convention for the Safety of Life at Sea (SOLAS), and other relevant safety directives. Wärtsilä's propulsion systems are designed to comply with the SOLAS and safety requirements of relevant classification bodies. Type approval is sought from classification societies before new products are launched. Wärtsilä's ship designs follow class society and flag state rules to ensure safe and compliant designs for its clients. Class approval is required for drawings and calculations delivered to the client before construction of the vessel starts.

Type Approvals in 2019

In 2019, our Aquarius UV Ballast Water Management System (BWMS) was granted US Coastguard (USCG) Type Approval. Together with our other BWMS technology, the USCG Type Approved Wärtsilä Aquarius EC, we became the first manufacturer able to offer two USCG Type Approved BWMS technologies. In addition to the USCG approvals, both technologies have also been awarded Type Approval by the International Maritime Organization (IMO).

Additionally, our Exhaust Gas Cleaning (EGC) system was Type Approved in China by the China Classification Society (CCS). Full scale testing was carried out after its shipboard installation onboard a new Very Large Crude Carrier (VLCC) was completed, and the relevant data was reviewed and reported by Dalian Maritime University, as an independent third party. The CCS Type Approval now means that the product can be installed on any CCS class ship without the need for further emissions testing.

At the end of the year, Type Approval tests were performed for the Wärtsilä 14 high-speed engine, which was launched in 2018. The Wärtsilä 14 engine and engine automation Type Approval test was performed at Liebherr Machines' Bulle factory in Switzerland. The test was witnessed by all seven standard classification societies for engines: ABS, BV, CCS, DNV-GL, LR, RINA, and RS.

The IFC provides general and industry specific examples of Good International Industry Practices (GIIP), such as the Environmental, Health, and Safety (EHS) Guidelines for Thermal Power Plants, which is today considered the minimum environmental standard in larger global power plant projects. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to comply with whichever is the more stringent. The EHS guidelines together with the IFC's Environmental and Social Performance Standards are adhered to via the Equator Principles risk management framework in most projects in emerging markets financed by international financial institutions. In the EU, the Industrial Emissions Directive (IED) and the Medium Combustion Plant Directive (MCPD) set the main emission requirements for large and medium-sized combustion plants throughout the EU. EU Member States may set additional and/or stricter emission limits if needed, for example, to comply with ambient air quality standards.

Lifecycle approach

Wärtsilä's products have a long operational life. Therefore, identifying the lifecycle impacts of our products is essential for understanding their total environmental impact. We manage the lifecycle of our products through their design, the careful selection of suppliers, production methods, and by optimising transportation, maintenance and repairs during the products' operational life.

Our products are delivered with adequate user guides that include basic information about the products and full instructions for their use. Moreover, we provide specific training and advice for our customers to ensure environmentally sound and safe utilisation of Wärtsilä products, and that the products and systems are used in the most efficient way. We also offer service agreements and products that help customers to optimise their operations, and actively support them in selecting suitable solutions already in the early phase of projects.

Supply chain management

Suppliers play a significant role in our delivery process. We aim to have close and excellent relationships with our key suppliers in order to ensure that both parties understand and comply with our strict process and product requirements.

Apart from financial benefits, close relationships stimulate knowledge sharing, create an environment of innovation, and allow strategic suppliers to integrate more strongly into our value chain. We have an extensive supply base with around 27,000 active suppliers, most of whom are located in Europe, where we have our main production units.

Wärtsilä supplier requirements

Wärtsilä has defined processes for selecting suppliers, determining their compliance with Wärtsilä supplier requirements, and developing the supply relationship. We offer our suppliers a partnership that strengthens the competitiveness of both parties through open and continuous dialogue. The partnership approach is also applied in our research and development activities, often in collaboration with universities, research institutes, and key suppliers.

We have clear expectations towards our suppliers in terms of compliance with relevant legislation, environmental aspects, quality, occupational health and safety management, and social performance.

In addition to requirements relating to general features and product-specific issues, we have clear expectations towards our suppliers in terms of compliance with relevant legislation, environmental aspects, quality, occupational health and safety management, and social performance. Suppliers must demonstrate their compliance with these requirements in order to receive approved supplier status. These requirements are also included in standard supply contracts. We monitor suppliers' compliance with these requirements by using performance indicators, and by conducting various types of audits.

Assuring supplier compliance

Suppliers are assessed and managed through our Supplier Relationship Management tool. For potential new suppliers, the offering, risk level, and compliance with Wärtsilä's supplier requirements are assessed during the basic assessment phase before the supplier relationship begins. The basic risk assessment takes into account both supplier-level and country-level risks, and is applied also to existing suppliers with assessment renewals at set intervals. The Wärtsilä supply management team analyses the basic assessment submitted by a supplier, and decides whether any further steps in the assessment process are needed. Low-risk suppliers can be approved to do business with Wärtsilä based on the basic assessment.

As a default for medium and high-risk suppliers, and especially for potential suppliers and new suppliers for a specific product or service, a detailed assessment is conducted. The purpose of the detailed assessment is to complement the basic risk assessment, assess the supplier's capabilities and capacity, and to collect further

information about the supplier. If the supplier's risk level is determined as acceptable based on the detailed assessment, and if there is a business need, the supplier can be approved.

For new and existing suppliers of higher criticality and risk in terms of their management system, offered scope and geographical location, on-site audits are conducted by a qualified lead auditor in co-operation with the Wärtsilä supply management team and other relevant stakeholders. A third-party auditor can be used in specific areas of concern, such as human rights or cyber security. For any deficiency to meet the requirements, corrective actions are agreed on and completed before the audit can be accepted.

Wärtsilä assesses and upgrades its supplier management system as necessary on a regular basis. In 2019, we launched the risk-based supplier assessment and management system for existing suppliers, following its launch for new suppliers in 2018.

Supplier rating coverage in 2019

As part of the supplier evaluation, Wärtsilä conducts a rating based on Wärtsilä's supplier requirements. This rating is the result of an assessment of various information sources, such as the basic and detailed assessment, dialogue with suppliers, and conducted audits. Based on this rating, the suppliers receive a status: approved, approved with remarks, or banned. The rating is reviewed regularly, as are the results of the conducted audits.

By the end of 2019, we rated 712 out of our 1,255 direct global suppliers, which covers 96% of the related spend (target for the year was 96%). The rating coverage of local supplier spend was 69% (target 80%), and of indirect supplier spend 76% (target 70%). In 2019, 40 suppliers received banned status because of their failure to meet Wärtsilä's requirements on product specific issues, compliance, quality or sustainability. Of these suppliers, nine completed corrective actions that led to an improved rating.

Sustainability data

Economic

Wärtsilä's objective is to achieve profitable growth and create long-term value for our shareholders and society at large. Achieving this depends on our ability to satisfy the expectations of multiple stakeholders. These include providing customers with high-quality and environmentally sound products, solutions and services, building long-term partnerships with suppliers, offering employees competitive compensation and working conditions, as well as contributing to the well-being of the local communities in which Wärtsilä operates. Good economic performance establishes a platform for the other aspects of sustainability – environmental and social responsibility.

Economic performance

Direct economic value generated and distributed (GRI 201-1)

MEUR	2019	2018	2017*	2016	2015
Customers					
Net sales	5 170	5 174	4 911	4 801	5 029
Suppliers					
Cost of goods, materials, and services purchased	3 368	3 327	3 024	2 969	3 136
Value added	1 802	1 847	1 888	1 831	1 893
Distribution of value added					
Distributed to stakeholders	1 404	1 615	1 651	1 593	1 555
Employees					
Wages and salaries	1 028	954	1000	939	935
Public sector					
Taxes and social dues	329	336	331	343	349
Creditors					
Net financial items	-47	-40	-47	-53	-34
Shareholder					
Dividends	284	284	272	256	237
Communities					
Donations given	1	1	1	2	1
For business development	114	232	237	238	338

*Restated due to IFRS 15

	2019	2018	2017*	2016	2015
Customers					
Net sales (MEUR)	5 170	5 174	4 911	4 801	5 029
Net sales by market area (MEUR)					
Europe	1 690	1 485	1 526	1 581	1 566
Asia	1 968	1 867	1 933	1 774	2 051
Americas	1 098	1 245	1 132	1 039	1 006
Africa	222	283	221	313	329
Other	192	294	100	94	78
Suppliers					
Cost of goods, materials, and services purchased (MEUR)	3 368	3 327	3 024	2 969	3 136
Employees					
Salaries and wages (MEUR)	1 028	954	1000	939	935

Salaries and wages by market area (MEUR)					
Europe	719	643	689	650	632
Asia	145	150	156	153	163
Americas	134	134	130	110	112
Africa	22	20	18	19	21
Other	8	7	7	7	8
Net sales/employee (TEUR)	271	274	275	262	271
Public sector					
Taxes and social dues (MEUR)	329	336	331	343	349
Taxes and social costs by market area (MEUR)					
Europe	223	252	236	246	246
Asia	47	38	44	45	50
Americas	43	33	38	47	44
Africa	19	10	12	5	6
Other	-2	4	1	0	2
Subsidies received (TEUR)	8 101	7 085	9 891	8 343	9 669
Net financial items (MEUR)	-47	-40	-47	-53	-34
Community					
Donations given, Board of Directors (TEUR)	130	110	110	1365	110
Donations given, Wärtsilä companies (TEUR)	383	627	673	533	511

*Restated due to IFRS 15

Financial implications and other risks and opportunities due to climate change (GRI 201-2)

Wärtsilä Italia S.p.A is the only subsidiary that falls into the scope of the EU Emission Trading Scheme (ETS) because of the heating plant of the factory. The EU ETS has not had any impact on the company's profitability. Wärtsilä's response to climate change is to develop and provide products, solutions, and services that enable our customers to reduce their greenhouse gas emissions. More information about Wärtsilä's solutions for climate change can be found on our website: www.wartsila.com. The potential business risks related to climate change and Wärtsilä's products are presented under the sustainability and climate change chapter under the Risks and risk management section.

Defined benefit plan obligations and other retirement plans (GRI 201-3)

The pension cover is based on the legislation and agreements in force in each country. In Finland, most of the pension obligations are covered by the Employee Pensions system (TyEL). The largest defined benefit plans are used in Switzerland, Germany, Great Britain and Sweden. Most of these defined benefit pension plans are managed by pension funds, and their assets are not included in the Group's assets. Wärtsilä's subsidiaries make their payments to pension funds in accordance with the local legislation and practices in each country. Authorised actuaries in each country have performed the actuarial calculations required for the defined benefit plans. More information on the Group's pension obligations can be found in the Financial Review, Note 25. Pension obligations.

Financial assistance received from government (GRI 201-4)

Subsidies received (TEUR)	2019	2018	2017	2016	2015
	8 101	7 085	9 891	8 343	9 669

The value of the subsidies received in 2019 was EUR 8 101 thousand and they were among others related to R&D projects. The most contributing countries in 2019 were Finland, Norway and Spain.

Market presence

Ratios of standard entry level wage by gender compared to local minimum wage (GRI 202-1)

Wärtsilä applies and follows local employment legislation in all countries, and respects local collective labour agreements, which often define the minimum wage levels. In addition, entry level salaries are benchmarked against the market references by function and educational qualification. While laws and regulations determine the minimum level, the actual salaries often exceed these levels. A total compensation package for employees in each country is in line with the corporate rewarding guidelines, local market practices, and labour agreements. The base salary is set to meet market conditions, the demands of the job, and individual competence and performance.

Proportion of senior management hired from the local community (GRI 202-2)

Wärtsilä always publishes all open vacancies internally, thus ensuring an equal opportunity to apply for Wärtsilä positions. If there is no specific reason, such as a competence transfer need from other countries, to hire expatriates to the position, local residents are hired. This principle also applies to senior management positions. Senior management consists of global business and corporate management and local company management positions. Globally, 90% of Wärtsilä's senior management is locally hired, in other words from the same country as the Wärtsilä subsidiary they work for.

Environment

The environmental impacts of Wärtsilä's operations largely relate to manufacturing. The main environmental aspects of manufacturing relate to the use of energy and natural resources and thus also to the emissions that are produced by the manufacturing processes. Product development also requires the testing of products and individual components which, alongside manufacturing, loads the environment. However, the positive impacts of product improvements on the environment far outweigh the negative impacts of testing when taking the product's entire lifecycle into account.

Materials

Materials used by weight or volume (GRI 301-1)

The main materials used in Wärtsilä products are various metals: cast iron, alloy and structural steel, aluminium alloys, and bronze. In 2019, the total material usage was 84 081 tons (103 332). The major material groups were various metals 80%, sand 14%, and various chemicals 2%.

Materials	2019	2018	2017	2016	2015
Total material usage (t)	84 081	103 332	73 738	84 913	100 767
Metals (t)	67 123	85 820	55 416	59 898	73 285
Sand (t)	11 957	13 055	13 493	18 399	20 915
Chemicals (t)	1 520	1 422	1 575	1 831*	5 025
Others (t)	3 482	3 035	3 255	3 601	1 542

* A substantial error in reporting classifications was corrected in 2016, meaning that the figure is not directly comparable to earlier years.

Recycled input materials used (GRI 301-2)

The main materials used in Wärtsilä products are various metals: cast iron, alloy and structural steel, aluminium alloys and bronze. Recycled material content of these metals vary depending on the material and supplier in question. Recycled material, such as end-of-life coins and bronze propellers, is used for example in the casting of new propellers.

Energy

Energy consumption within the organisation (GRI 302-1)

The total energy consumption (in terajoules, TJ) includes the electricity, heat, and fuels used in Wärtsilä companies in recent years. The fuels are used mainly in engine testing, but also in heating, production, and transportation. In 2019, the fuels were from non-renewable sources.

Wärtsilä uses electricity in its manufacturing operations - for example in machining components - and in service workshops and offices. Both the electrical and the heat energy generated during engine test runs can be utilised. Wärtsilä's aim is to use the electrical energy for its own purposes while also selling part of this electrical energy to local power companies. Due to the nature of engine test runs, the production of electricity and the company's electricity demand are not equivalent; this allows the surplus energy to be sold to local power companies.

Heating for factories and offices accounts for most of Wärtsilä's consumption of heat energy. In several factories, the heat generated in engine test runs is used for heating. Some factories and offices are connected to a local district heating network, some have their own heating plant, and some use electricity for heating.

Energy	2019	2018	2017	2016	2015
Total energy consumption (TJ)	1 404	1 538	1 477	1 471	1 539
Electricity consumption (MWh)	124 843	132 572	131 960	139 363	142 819
Purchased electricity (MWh)	119 092	128 878	128 176	132 771	131 501
Generated electricity (MWh)	5 751	3 694	3 784	6 592	11 318
Sold electricity (MWh)	32 812	32 019	28 066	23 620	21 834
Heat consumption (MWh)	31 429	32 937	36 890	33 542	30 161
Light fuel oil (t)	6 089	6 223	4 327	3 918	4 801
Heavy fuel oils (t)	3 343	3 381	3 798	3 647	3 675
Natural gas (t)	8 064	9 783	8 393	8 614	9 750
Other fuels (t)	1 329	1 238	2 811	3 209	2 834

Energy intensity (GRI 302-3)

Energy	2019	2018	2017	2016	2015
Total energy consumption (TJ/ Net sales MEUR)	0.272	0.300	0.308	0.313	0.334

Reduction of energy consumption (GRI 302-4)

From the start of 2017, Wärtsilä set an energy saving target to reduce energy consumption by at least 7% in terms of absolute consumption (GWh) by 2025, compared to the energy consumption in 2015. By the third year to the target, permanent energy savings of 3.4 GWh have been reached, mainly by reducing electricity or heat consumption.

Energy savings	2019	2018	2017
Annual energy savings (GWh)	0.5	2.0	0.9
Cumulative energy savings (GWh)	3.4	2.9	0.9

Water

Water withdrawal by source (GRI 303-1)

Wärtsilä's water consumption can be divided into two categories: domestic use and cooling use. Domestic water is used mainly for sanitary purposes and by industrial equipment, such as machine tools and washing machines. Some factories also use domestic water to produce moulds or to fill in their closed-loop cooling system needs. Wärtsilä uses seawater for its engine and process cooling needs.

Total annual water consumption split by the water withdrawal source: Out of cooling water about 99% comes from local surface watercourses where only heat is released along with clean water, and about 1% of cooling water comes from municipal water utilities. Out of Wärtsilä's total water consumption in 2019, about 94% was seawater for cooling purposes, about 5% was from municipal water supplies, and about 0.4% was directly withdrawn groundwater or rain water.

Water	2019	2018	2017	2016	2015
Total water consumption (1 000 m ³)	11 268	12 607	12 749	8 444	6 971
Consumption of domestic water (1 000 m ³)	648	652	631	613	703
Consumption of cooling water (1 000 m ³)	10 621	11 954	12 118	7 831	6 268

Water sources significantly affected by withdrawal of water (GRI 303-2)

No water source has been found to be significantly affected by any Wärtsilä subsidiary water withdrawal.

Percentage and total volume of Water recycled and reused (GRI 303-3)

Wärtsilä Italia S.p.A. recycled 101 698 m³ of water in 2019 by running it through a water treatment plant and reusing the cleaned water in production processes. The amount corresponds to roughly 28% of Wärtsilä Italia's annual water consumption and 1% of Wärtsilä's total water consumption in 2019. No other major water recycling processes are in use in Wärtsilä production facilities globally.

Emissions

Greenhouse gas (GHG) emissions and intensity (GRI 305-1, 305-2, 305-3, 305-4)

In addition to direct CO₂ emissions, Wärtsilä's operations generate indirect CO₂ emissions. In 2019, the calculated secondary CO₂e emissions (location-based method) were 40 911 tons (47 347) (from purchased electricity and heat) and the CO₂e emissions from flights totalled 34 700 tons (40 945). There were no biogenic CO₂ emissions in 2019.

GHG emissions (location-based)	2019	2018	2017	2016	2015
Emissions of carbon dioxide (tCO ₂ e) (direct) (SCOPE 1)	56 568	59 949	57 998	57 355	63 441
Emissions of carbon dioxide (tCO ₂ e) (indirect) (SCOPE 2)	40 911	47 347	56 002	59 697	60 317
Emissions of carbon dioxide (tCO ₂ e) (indirect) (SCOPE 3) *	164 550	208 330	155 537*	168 571*	39 033
GHG emissions intensity (all)	50.8	61.5	56.1	60.8	35.3

* Includes indirect emissions from materials, energy, and flights from 2016 onward. Pre-2016 figures only include emissions from flights.

GHG emissions (market-based)	2019	2018
Emissions of carbon dioxide (tCO ₂ e) (direct) (SCOPE 1)	56 568	59 949
Emissions of carbon dioxide (tCO ₂ e) (indirect) (SCOPE 2)	53 453	63 768
Emissions of carbon dioxide (tCO ₂ e) (indirect) (SCOPE 3)	160 960	204 065
GHG emissions intensity (all)	52.5	63.9

Reduction of greenhouse gas (GHG) emissions (GRI 305-5)

Wärtsilä has taken several measures to reduce its indirect CO₂ emissions. The energy efficiency commitment aims to reduce energy consumption and emissions. In addition, Wärtsilä's focus lies on reducing travelling by implementing a strict travel policy and by using virtual meeting concepts: Skype / Teams instant messaging, which enables live chats between two people or more, Skype / Teams meetings allowing multi-person meetings from personal computers, in which presentation material can be shared, and the videoconferencing system. In Wärtsilä, Skype / Teams and videoconferences are in everyday use. Approximately 1 700 Skype / Teams conferences are arranged daily. Traditional video conference system exists in 160 rooms in 49 countries, and as a new expanding solution there are 50 Skype / Teams rooms in a few countries. We also managed to reduce emissions from business flights by 15%, or 6 245 tons CO₂e in 2019 from the previous year.

Nitrogen oxides (NO_x), sulphur oxides (SO_x), and other significant air emissions (GRI 305-7)

Air emissions are mainly caused by test runs and the painting of completed engines or other Wärtsilä products. Test run emissions consist of nitrogen oxides (NO_x), sulphur dioxide (SO_x), carbon dioxides (CO₂) and particles, as well as small amounts of other emission components. The painting of engines and other Wärtsilä products generates VOC emissions (volatile organic compounds). Engine emissions are reduced through research and development, as well as product development and testing. These measures also generate emissions, but their results reduce the future emissions of manufactured engines.

Emissions	2019	2018	2017	2016	2015
Emissions of nitrogen oxides (t)	544	545	534	500	553
Emissions of sulphur oxides (t)	51	55	62	59	63
Emissions of total hydrocarbons (t)	139	164	131	116	145
Particulates (t)	7	7	8	9	9
Emissions of VOC (t)	37	45	36	30	40

The primary sources of manufacturing noise are the engine test runs and the ventilation machinery on factory roofs. This noise is mostly low frequency and is therefore not easily detected by the human ear. Wärtsilä has specifically addressed the issue of noise protection using technical means and has succeeded in lowering noise levels considerably. However, noise abatement is a continuous need and requires regular monitoring.

Effluents and waste

Water discharge by quality and destination (GRI 306-1)

Wärtsilä uses seawater for its engine and process cooling needs, in which case the cooling water system is kept separate so that only heat is released into the natural water system. Wastewater is sewerred and piped to the local wastewater treatment plant or treated on site before being discharged. If the effluent is not suitable for discharge, it is taken away for appropriate processing, for example to a special treatment plant for hazardous wastes.

Several Wärtsilä subsidiaries have environmental permits allowing clean or properly treated water discharge into natural water bodies. Most of this discharge is clean cooling water released back into local surface watercourse, where only heat is released.

In 2019, the total amount of water discharge was 11 196 069 m³.

2019 water discharge	Municipal sewer	Sea	River	Ground	Re-used by other entity
Amount (m ³)	201 313	10 620 945	361 529	10 242	2 040
% of total water discharge	1.8	94.9	3.2	0.1	0.0

Waste by type and disposal method (GRI 306-2)

Manufacturing activities cause various wastes. These are divided into two main categories: hazardous and non-hazardous wastes. Hazardous wastes include cutting fluids, various types of waste oil, paints and solvents, oily wastes, solid wastes, etc. Non-hazardous wastes include scrap metal, metal swarf, waste plastics, waste wood, domestic waste, cardboard, and paper waste. All Wärtsilä companies sort their waste according to local municipal regulations. Generally speaking, the main sorting categories are waste to be incinerated, waste for landfills, and waste for recycling.

Waste management in Wärtsilä has four aims, listed in their order of priority:

- to reduce the amount of waste generated in processes
- to use waste as a material
- to use waste as energy
- to dispose of waste in an environmentally sound way

Waste	2019	2018	2017	2016	2015
Total waste (t)	30 287	36 025	32 580	50 020	52 037
Non-hazardous waste (t)	26 439	31 240	28 928	42 663	44 864
Hazardous waste (t)	3 847	4 785	3 651	7 357	7 173
Waste for landfills (t)	2 022	4 051	3 198	9 962	8 593
Waste for recycling (t)	22 133	24 791	23 647	30 695	34 074
Waste for incineration (t)	2 215	2 305	1 990	1 889	2 197
Waste for composting (t)	69	92	95		
Hazardous waste for landfills (t)	318	579	548	964	2 586
Hazardous waste for recycling (t)	2 261	3 063	2 113	5 470	3 502
Hazardous waste for incineration (t)	1 268	1 143	990	923	1 084

Products and services

Extent of impact mitigation of environmental impacts of products and services

Environmental products and services are the most important means for Wärtsilä to mitigate the environmental impacts. Wärtsilä has a key role in providing environmentally sound solutions and services that enable our customers to develop their business in a sustainable way. The value of sustainable innovation is delivered across a wide range of environmentally sound products and solutions, including technologies related to efficiency improvement, reduction of gaseous and liquid emissions, effluent and ballast water treatment, as well as to products and solutions that are flexible, efficient, reliable, safe, cost-efficient to operate, and that have a minimal environmental footprint throughout their lifecycles.

Expenditures

Total environmental protection expenditures and investments

Concerning Wärtsilä's operations, we have defined expenditures as environmental expenditures if they are related to soil, water and air pollution control, waste management, environmental management, or noise control.

A substantial proportion of the company's investments in product development are targeted at securing environmental compliancy providing short- and long-term benefits for the whole value chain and ultimately for the environment.

Expenditures	2019	2018	2017	2016	2015
R&D costs (MEUR)	164	165	141	131	132
Environmental costs					
Environmental capital expenditures (MEUR)	1.0	0.6	4.0	0.7	0.5
Environmental operating expenditures (MEUR)	3.8	4.0	3.8	4.0	4.6

Social

Wärtsilä's aim is to provide the best value and service to its customers by continuously developing its competences and way of working. The strategic goal of Wärtsilä's social responsibility and people strategy is to bring the business strategy alive by developing Wärtsilä's people, organisation, competences and ways of working to meet the evolving business needs.

The aim is to have energetic, competent, and motivated personnel with exciting and meaningful jobs and career opportunities led by excellent leaders. Good performance is recognised and diversity respected. By applying high standards of occupational health and safety, Wärtsilä strives to offer a hazard-free workplace to its employees, contractors, and others working in different parts of the corporation.

Good corporate citizenship is accomplished through active co-operation, open communication, and good relationships with stakeholders. Wärtsilä's operations and relations with its stakeholders are based on the company's Code of Conduct, with which each Wärtsilä company and individual is required to comply.

Significant changes to the organisation and its supply chain in 2019 (GRI 102-10)

In October 2018, Wärtsilä was reorganised into two business areas, Wärtsilä Marine Business and Wärtsilä Energy Business, covering both new sales and services for the respective markets. The new organisational structure has been operational as of 1 January 2019. This has been one of the biggest organisational changes in Wärtsilä's history, with altogether more than 13000 people changing places, and a major change management, restructuring and recruitment effort being implemented.

Wärtsilä's Group-wide programme to realign its operations and resources with the aim of ensuring future profitability and competitiveness, has been ongoing throughout 2019. The planned actions include an increased focus on targeted sales activities, developing the agreements-based and "as-a-service" business, reviewing the cost structure, and optimising the business portfolio. The programme is expected to lead to a reduction of approximately 1 200 employees globally by the end of 2020.

In February, Wärtsilä strengthened its underwater-related servicing capabilities with the opening of a new underwater repair, refurbishment, and maintenance facility in Fujairah, United Arab Emirates.

In May, Wärtsilä announced the acquisition of Ships Electronic Services Ltd ("SES"), a UK based company specialising in navigation and communication electronics, as well as installation, maintenance, and repair services, mainly for commercial and leisure vessels. The company employed a staff of 47.

In September, Wärtsilä's Energy Business announced a plan to re-organise and re-align its organisation, aiming for increased customer centricity and an improved ability to capture market opportunities through reduced organisational complexity, faster decision making, and greater empowerment of its people.

Also in September, it was decided to dissolve WHEC, the Wärtsilä-Hyundai Engine Company joint venture in Korea, by mutual agreement with Hyundai Heavy Industries (HHI). WHEC manufactured 4-stroke W50DF engines for LNG carriers and other marine applications for the Asian markets, and employed 20 people at the end of 2019.

Wärtsilä's digital transformation activities have progressed rapidly during recent years. In September, Wärtsilä integrated its teams within the central digital organisation into various business and corporate functions, based on where they could best create value to our customers and Wärtsilä as a whole. At the same time, their participation in operations and projects is continuing in a cost-efficient manner.

In December, Wärtsilä announced the divestment of Wärtsilä ELAC Nautik GmbH (ELAC Nautik). ELAC Nautik became part of Wärtsilä as a result of the acquisition of L-3 Communications MSI in 2015. Its main market focus is on hydroacoustic products, including

sonars, underwater communication systems and echo systems for small and medium sized military submarines. ELAC Nautik employs approximately 120 people.

Employment

Information on employees and other workers in 2019 (GRI 102-8, GRI 401-1)

In addition to direct employment, Wärtsilä employed also indirectly an external workforce totalling 6 370 man-years in subcontracting at its factories and units. The units located in Finland had a total personnel of 3 776 employees.

All in all, 1 890 employees left and 4 067 joined Wärtsilä globally during 2019 for different reasons. Wärtsilä had 18 795 employees at the end of 2019.

Personnel	2019	2018	2017	2016	2015
Number of employees at the end of the year	18 795	19 293	18 065	18 011	18 856
Personnel by business					
Services	*	11 051	10 624	10 567	10 592
Marine Solutions	12 526	6 267	5 845	6 074	6 847
Energy Solutions	4 978	1 171	1 038	903	959
Other	1291	805	559	467	459
Personnel by market area					
Europe	11 618	11 693	10 463	10 399	10 893
Asia	4 341	4 726	4 890	4 992	5 297
Americas	2 016	2 074	1 960	1 919	1 917
Other	820	801	753	701	748
Average age of employees	41.6	41.4	41.5	41.0	41.0
Permanent employees (%)	93	93	92	89	89
Temporary employees (%)	7	7	8	11	11
Full-time employees (%)	98	98	98	98	98
Part-time employees (%)	2	2	2	2	2
Employee turnover (resigned) (%)	6.7	5.7	5.3	5.3	5.2
Net employment creation	-571	923	-213	-840	-755

* Services ceased to exist as a separate business area at the end of 2018

Number of employees by employment contract and gender in 2019	Permanent	Temporary
Total	17 401	1 394
Male	14 533	1 111
Female	2 868	283

Number of employees by employment contract and region in 2019	Permanent	Temporary
Europe	11 155	462
Asia	3 631	716
America	1 983	30
Other	632	186

Permanent employees by employment contract type and gender in 2019	Full-time	Part-time
Total	17 035	366
Male	14 227	306
Female	2 808	60

New employee hires in 2019	Employees	Rate (%)
Total	4 067	21.6

Gender		
Male	3 159	20.2
Female	908	28.8
Age group		
< 30 years	1 684	65.5
30–50	2 071	17.7
> 50 years	313	7.0
Market area		
Europe	2 406	20.7
Asia	881	20.3
Americas	494	24.6
Other	286	35.0
<hr/>		
Employee turnover (resigned) in 2019	Employees	Rate (%)
Total	1 162	6.7
Gender		
Male	914	6.3
Female	248	8.6
Age group		
< 30 years	187	9.0
30–50	774	7.1
> 50 years	201	4.6
Market area		
Europe	699	6.3
Asia	291	8.0
Americas	118	5.9
Other	54	8.5

Benefits provided to full-time employees that are not provided to temporary or part-time employees (GRI 401-2)

In general, temporary and part time employees are offered the same benefits as permanent employees. In some countries, eligibility is linked to the number of months or years of service – such differences being typically based on collective agreements according to local legislation.

Labour / management relations

Minimum notice periods regarding operational changes (GRI 402-1)

Wärtsilä way of working concerning minimum notice periods is described in the Policy on human rights, equal opportunities and fair employment practices.

Occupational health and safety

Workers representation in formal joint management–worker health and safety committees (GRI 403-1)

Wärtsilä companies apply occupational health and safety programmes as required by local legislation. These are normally developed by occupational health and safety committees consisting of representatives from both management and personnel. Altogether 85% of Wärtsilä companies have an occupational health and safety committee covering in total 89% of Wärtsilä's employees.

Type of injury and rates of injuries, occupational diseases, lost days and absenteeism, and total number of work-related fatalities (GRI 403-2)

The lost time injury frequency for 2019 was 2.25, which was 10% lower than in the previous year.

Wärtsilä regrets to report a contractor fatality at a shipyard in Vietnam. Contractor was removing a temporary steel structure connected to the hull of a vessel. During this removal operation, the structure suddenly fell down and sank to the bottom of the sea. One of the contractor employees was working on the top of this structure when the accident happened, and he did not manage to get out losing his life.

Injuries	2019	2018	2017	2016	2015
Total number of injuries, employees	397	398	446	439	461
Number of lost time injuries resulting in at least 1 day absence - employees, total	85	90	88	95	104
Europe	58	62	60	69	72
Asia	16	14	9	17	15
Americas	10	13	16	6	16
Africa	1	1	3	3	1
Number of lost time injuries resulting in at least 1 day absence - contractors, total	20	35			
Europe	11	19			
Asia	4	6			
Americas	5	10			
Africa	0	0			
Lost time injuries / million working hours					
Employees	2.25	2.5	2.5	2.6	2.8
Contractors	1.8	3.1			
Absence rate, employees					
Absence due to illness (% of total working hours)	2.1	2.2	2.0	2.2	1.9
Absence due to lost time injury (% of total working hours)	0.1	0.1	0.1	0.1	0.1
Absence due to occupational diseases (% of total working hours)	0.0	0.0	0.0	0.0	0.0
Fatalities					
Number of fatalities, total	1	1	1	1	1
Employees	0	1	0	0	1
Contractors	1	0	1	1	0

Workers with high incidence or high risk of diseases related to their occupation (GRI 403-3)

Wärtsilä employees constantly work close to running engines while conducting overhaul or testing activities, which exposes them to high levels of noise. Wärtsilä has occupational safety and health programmes in place to prevent hearing loss, including providing hearing protectors to those employees at risk of hearing loss or impairment. In 2019, there were in total 10 cases of occupational disease diagnosed, which is equivalent to 0.27 cases / million worked hours.

Training and education

Average hours of training per year per employee (GRI 404-1)

Wärtsilä's average number of training days in 2019 for male employees was 2.11 and for female employees 1.85.

Training days/employee	2019	2018	2017	2016	2015
All employees	2.1	2.2	2.2	3.0	3.0
Managers and superiors	2.1	2.9	3.5	3.7	3.5
White-collar employees	1.9	2.1	3.0	2.9	2.9
Blue-collar employees	2.3	2.1	2.0	3.0	3.1

Programs for upgrading employee skills and transition assistance programs (GRI 404-2)

Wärtsilä programmes for skills management is described in the People Management section. Wärtsilä offers a wide variety of internal training and learning opportunities for its employees, covering more than 20 training categories. These include topics such as engine technology, health and safety, language and culture, project management, environment, security, and leadership.

Percentage of employees receiving regular performance and career development reviews (GRI 404-3)

	2019	2018	2017	2016	2015
Development discussions held annually					
Coverage %	91	96	96	96	92

Diversity and Equal opportunity

Diversity of governance bodies and employees (GRI 405-1)

A diverse workforce generates higher profits, better complex problem-solving skills, and access to a larger talent pool. Wärtsilä's Diversity Initiative began in 2012 and is aimed at driving an inclusive corporate culture at all levels to meet both global and local requirements. By investing in diversity and supporting employees of varied gender, age, personality, and educational background, Wärtsilä becomes an even more attractive employer and a more valued business partner for its customers.

	2019	2018	2017	2016	2015
Gender diversity					
Male/female ratio (%)	83/17	83/17	84/16	84/16	85/15
Executive positions globally: male/female ratio (%)	83/17	87/13	89/11	89/11	89/11
Regional diversity					
Number of nationalities	140	137	136	134	131

Number of employees per age group in 2019	Employees	Ratio (%)
< 30 years	2 574	14
30–50	11 736	62
> 50 years	4 486	24

Percentage of members of Board of Management (BoM) and Board of Directors (BoD) per age group in 2019	BoM (%)	BoD (%)
< 30 years	0	0
30–50	29	13
> 50 years	71	88

Percentage of members of Board of Management (BoM) and Board of Directors (BoD) per gender in 2019	BoM (%)	BoD (%)
Female	14	25
Male	86	75

Customer satisfaction

Results of surveys measuring customer satisfaction (GRI 102-43)

Wärtsilä always puts the needs of our customers first. We show this by carefully listening and acting upon our customers' feedback, at both operative and management levels. Wärtsilä places great emphasis on earning our customers' long-term trust by keeping its promises. While challenges may arise at any time in this business, relationships are strengthened by focusing on our customers. We observe our customers' perception of loyalty and satisfaction by applying a Net Promoter Score methodology, NPS. The results are monitored on a monthly basis and last three years shows considerable improvements.

Our Customers' feedback on project deliveries and the operation of their installations, are welcomed. To know what works and where to improve, as well as, understanding our customers' operational environments, is critical in developing the company's products and services. To ensure our customers' needs and expectations are met, Wärtsilä collects feedback during different events, activities, and interactions with our customers and acts upon that feedback.

Customer loyalty	2019	2018	2017
NET Promoter Score, NPS	59	53	45
Sample	2 787	3 356	4 875

Net promoter score scale is from -100 to 100.

Compliance

Wärtsilä is committed to carrying out its business in a sustainable way. In order to promote the long-term interests of Wärtsilä and its stakeholders, the company strives to maintain the highest legal and ethical standards in all its business practices. All business and other activities of Wärtsilä shall be carried out strictly in compliance with all applicable laws and under the principles of good corporate citizenship in each country where such activities take place. This requires all employees to act responsibly and with integrity and honesty.

Wärtsilä is committed to ensuring compliance with the Wärtsilä Code of Conduct in all of its business operations globally and has, therefore, established a Group policy for reporting misconduct incidents and suspected Code of Conduct violations. Wärtsilä employees are encouraged to voice their concerns as to potential violations of the Code and its underlying policies and instructions. The reported misconduct cases are investigated either locally or centrally, as appropriate. The primary way for reporting suspected misconduct incidents is via the line management. However, employees also have alternative reporting routes, including an externally hosted whistleblowing channel, reporting directly to the compliance function, or by informing legal affairs. Should a suspected violation involve the top management of Wärtsilä Corporation, or where the suspected case is believed to be significant, the Audit Committee of the Board of Directors of Wärtsilä Corporation may be contacted directly. An employee who reports a potential Code of Conduct violation in good faith shall suffer no harassment, retaliation, or adverse employment consequences. Finally, Wärtsilä employees are instructed to seek advice on ethical and lawful behaviour and on matters of integrity from Wärtsilä legal counsels or from the compliance function.

Environmental compliance

Wärtsilä companies comply with all local environmental legislation. The operations of Wärtsilä's manufacturing companies require a valid environmental permit, the terms of which are generally met. Incidents of non-compliance are described in the following chapters.

Significant spills (GRI 306-3) and complaints

The number of disturbances, complaints, and incidents of non-compliance are presented in the table below. Reported disturbances typically cover incidents in which the Wärtsilä company concerned has been obliged to report the disturbance to the authorities.

The main environmental disturbances that occurred in Wärtsilä's business locations in 2019 were four minor fuel or oily water spills. These disturbances were investigated and the appropriate corrective actions to minimise the impact on the environment were taken in each case.

Non-compliance with environmental laws and regulations (GRI 307-1)

Wärtsilä Voyage Limited was charged total fines of EUR 6 052 by the company that provides water supply and sanitation services to St. Petersburg for recurrent surpassing of limits for chemical oxygen consumption and biological oxygen consumption in the company's environmental permit for sewer discharge. Corrective actions will be carried out in the beginning of 2020.

Disturbances, complaints, and non-compliances	2019	2018	2017	2016	2015
Environmental					
Disturbances	4	5	6	12	3
Non-compliances	1	3	1	0	3
Complaints	0	1	1	2	2
Social					

Non-compliances	2	2	1	4	4
Fines of non-compliance cases (EUR)	38 327	25 962	22 575	37 860	30 111

Incidents of discrimination and corrective actions taken, and non-compliance with laws and regulations in the social and economic area (GRI 406-1, GRI 419-1)

Wärtsilä supports and respects basic human values as outlined in the UN's Universal Declaration of Human Rights. Wärtsilä also supports the Ten Principles of the UN Global Compact, of which six principles are related to Human and Labour rights.

Wärtsilä's employees represent approximately 140 nationalities. The company supports fair and equal treatment of all its employees. Wärtsilä supports the work-related rights defined by the International Labour Organisation (ILO), and works, therefore, to ensure that there is freedom of association and the right to collective bargaining in the company. In those countries where local legislation does not recognise these rights, Wärtsilä endeavours to give employees other channels for expressing their opinions.

Wärtsilä does not accept the use of forced labour or child labour in any form. Wärtsilä is unaware of any cases of human rights being breached, discrimination, infringements of rights at work, or the use of forced or child labour. During the reporting period the following misconducts were realised:

Wartsila-ENPA SA, Turkey, was found by a labour court to have terminated an employee's employment on insufficient grounds, resulting in the company compensating EUR 6 675 to the ex-employee.

Wärtsilä Korea Ltd. was charged a penalty fee of EUR 25 600 for not fulfilling its legal obligation to hire disabled persons as a minimum 5% of the company's total employees. The company has mainly hired blue-collar employees, which limits the suitable job offerings to disabled persons.

There are also the following ongoing, disputed non-compliance cases:

Wartsila India Ltd. has eight ongoing judicial proceedings, out of which six pertain to ex-employees' perceived improper labour and dismissal practices; and two pertain to dispute on applicability of certain provisions of employment legislations. It typically takes several years in India for these types of disputes to be concluded, and thus some of the proceedings have been ongoing already since 2016.

Wärtsilä Brasil Ltda. was issued a notice of violation by the Brazilian Ministry of Labour for not fulfilling its legal obligation to hire disabled persons as a minimum 3% of the company's total workforce. The company has filed an appeal against the resulting fine, process which is ongoing. The company has specifically extended every vacancy advertisement to disabled people, whenever possible.

Non-compliance cases presented in previous reports

Wärtsilä Korea Ltd. was not able to fulfill its legal obligation to hire the legal minimum amount of disabled persons.

Wärtsilä North America, Inc.'s previously reported case of customer receiving noise complaints related to a power plant in Marquette, Michigan, has not led to any new grievances in 2019.

Communication and training about anti-corruption policies and procedures, and Confirmed incidents of corruption and actions taken (GRI 205-2, 205-3)

During the review period, no instances of corruption or bribery were identified. Wärtsilä's Anti-Corruption Policy is provided to sales intermediaries such as agents. Wärtsilä has arranged specifically tailored trainings to agents and other sales intermediaries. Wärtsilä's Anti-Corruption Policy is available for suppliers and any person or organisation upon request.

Political contributions (GRI 415-1)

During 2019, Wärtsilä did not make any contributions to political parties.

Legal actions for anti-competitive behavior, anti-trust, and monopoly practices (GRI 206-1)

Wärtsilä arranged, as it has earlier, a number of competition law training seminars in 2019 for relevant personnel in order to further promote their knowledge of competition laws, and thus ascertain full compliance with such laws.

Incidents of non-compliance concerning health and safety impacts of products and services, product and service information, marketing communications and customer privacy and data (GRI 416-2, GRI 417-2, GRI 417-3, GRI 418-1, GRI 419-1)

During the review period, no instances of non-compliance related to product health and safety or information liability, or customer privacy were identified.

UN Sustainable Development Goals and Wärtsilä

Sustainability forms the core of Wärtsilä's business operations, products and solutions. Several of the 17 United Nations Sustainable Development Goals (SDGs), which entered into force in 2016, deal with issues to which Wärtsilä contributes in a positive way. We, together with our stakeholders, are committed to developing solutions to solve the societal challenges laid out in the SDGs, while also generating new business opportunities. In particular, we play a vital role in delivering innovative clean energy and smart marine technologies.

We have reviewed all the SDGs and their targets, and have identified priority targets for our company. These are most notably SDG7 Affordable and clean energy, SDG8 Decent Work and Economic Growth, and SDG9 Industry, Innovation and Infrastructure.

Respecting our people and the environment



Wärtsilä's efforts to promote health, safety, and well-being covers employees, suppliers, customers and local communities. We support and respect the UN's Universal Declaration of Human Rights. We are also a signatory of the UN Global Compact, and are thereby committed to its principles with respect to human rights, labour, the environment and anti-corruption.

Our high standards in environmental, health and safety (EHS) matters are aimed at zero injuries among employees and contractors, and our products and solutions are designed to be reliable and safe to use. Wärtsilä offers solutions with zero or very low levels of emissions, and which comply to even the strictest local emission regulations, thus contributing positively to air quality while minimising the impact on people's health. We are also committed to continuous improvement in our environmental and social performance to avoid causing harm to the communities close to our operations.

Wärtsilä supports the work-related rights defined by the International Labour Organization, and upholds the freedom of association and the right to collective bargaining. We promote gender equality and are committed to including women in all aspects of our business. Wärtsilä's Diversity Initiative has been in place since 2012, fostering an inclusive corporate culture at all levels.

We contribute to sustainable economic growth by promoting global corporate citizenship, an inclusive corporate culture, and local employment. Continuous learning and self-development are encouraged by offering a wide range of competence development options at all levels of the organisation.

More information in sections:

[Environmental management](#)

[Guiding principles](#)

[Occupational health and safety](#)

[People management](#)

[Product design principles](#)

[Responsible business conduct](#)

[Sustainability data](#)

Enabling a 100% renewable energy future



Wärtsilä plays an important role in helping to meet the world's increasing demand for sustainable energy. Our flexible energy solutions enable the transition towards a 100% renewable energy future by providing technologies, services, and solutions for sustainable, reliable, and affordable power systems.

Wärtsilä's offering comprises flexible power plants, energy storage and management systems, as well as lifecycle services. These enable increased energy efficiency, guaranteed performance, as well as fuel and operational flexibility. Our solutions provide the needed backup for existing high renewable content power systems, or for those systems to be later shifted from baseload or intermittent operations to backup mode, as the energy transition proceeds. Our offering of energy storage, together with our advanced software for energy management, enable the transition to a sustainable, reliable, and affordable low carbon power system. In markets where this power transition is still to come, Wärtsilä's solutions provide efficient, reliable, and flexible baseload solutions, which can be shifted to back up renewable power in the future.

We engage actively in an open dialogue with various stakeholders to provide expertise and support for enhancing clean energy technology and research on a global scale. In 2019, we signed new partnership agreements with [Aalto University](#) and Lappeenranta-Lahti University of Technology (LUT) in Finland, aiming at new research schemes on energy systems and strategic power system modelling for 100% renewable energy systems. Additionally, among others, we provided seed funding to Soletair Power Oy, a Finland based start-up company operating in the field of [Power-to-X](#), and signed a cooperation agreement with Q Power Oy, a Finnish pioneer in biomethanisation, to accelerate the development and commercialisation of renewable fuels.

More information in sections:

[Wärtsilä Energy Business](#)

[Innovating for Sustainability](#)

[Academia offers rich ground for joint research into sustainable solutions](#)

[The power of many](#)

[Manufacturing and R&D](#)

[Stakeholder relations](#)

Enhancing a Smart and Low-Carbon Marine Ecosystem



Wärtsilä aims to connect smart vessels with smart ports to lead the shipping industry towards a Smart Marine Ecosystem with greater efficiency, negligible climate impact, and the highest levels of safety. We are committed to supporting our customers in their decarbonisation efforts, and to collaborating with industry stakeholders, such as regulators, energy companies, and classification societies, to bring decarbonisation to reality.

Our offering includes solutions for optimising and improving the efficiency of individual vessels, fleets, or entire value chains, reducing emissions to air, and for protecting the marine environment. Digitalisation sets new standards for the industry and provides opportunities for lifecycle efficiency improvements.

In 2019, we launched several [new innovations and announced partnerships](#) to support decarbonisation. These partnerships included the [Zero Emission Energy Distribution at Sea \(ZEEDS\) initiative](#) and the Getting to Zero 2030 Coalition to advance zero emissions shipping. Moreover, Wärtsilä and Singapore-based PSA Marine agreed to collaborate in the co-creation of smart technologies for the marine sector, and to integrate the deep capabilities developed in the [IntelliTug](#) project with new configurations and concepts of hybrid, electric, and other clean energy sources.

More information in other sections:

[Wärtsilä Marine Business](#)

[Innovating for Sustainability](#)

[An ultra-low emission maritime future is on the horizon](#)

[IntelliTug](#)

[Mapping the route towards zero-emission shipping](#)

[Stakeholder relations](#)

Conducting our business responsibly



Wärtsilä is committed to sustainability and responsible business in [its purpose statement and strategy](#). Our values and [Code of Conduct](#) define common rules for all employees and provide guidance on our approach to responsible business practices.

The implementation of our Code of Conduct and main policies on responsible business conduct include Wärtsilä Values and Code of Conduct discussion modules, the signing of an individual Code of Conduct Undertaking, e-learning training, and the inclusion of the Code of Conduct topics into the annual development discussions covering all employees. In addition, Wärtsilä has an externally hosted whistle blower channel for all employees to report concerns related to potential misconducts that contravene the Code of Conduct or the company's policies. In 2019, we launched a new Wärtsilä Values and Code of Conduct Discussion Session module for all employees. The discussions were arranged as team discussions and led by line managers, with more than 13,000 employees (approximately 70% of all employees) completing the session in 2019.

Wärtsilä's Code of Conduct and supporting policies expressly prohibit the company, its employees, and suppliers from offering or accepting any kind of benefit considered a bribe, and from taking actions that could give rise to a conflict of interest or breach of loyalty. We are aware that the risk of corruption and fraud is heightened in many markets where we operate. Therefore, full compliance with a stringent anti-corruption regime is required of all employees. An extensive training programme is in place for personnel on anti-corruption principles and applicable legislation, as well as the relevant company policies and procedures.

We aim to contribute towards the well-being of the local communities in which we are present. The means for this include, for example, creating employment, paying taxes and social dues, providing training and education to employees, co-operating with local stakeholders, and supporting local development.

More information in other sections:

[Guiding principles](#)

[Internal control](#)

[Responsible business conduct](#)

[Risks and risk management](#)

[Sustainability at Wärtsilä](#)

[Sustainability data – compliance](#)

Report profile

Data collection

The data on the products' environmental performance is based on measured test results. Performance data on the environmental and social aspects of sustainability has been collected from the Wärtsilä companies using a detailed questionnaire. Economic performance data is based mainly on audited financial accounts.

The sustainability data is collected and reported according to Wärtsilä's specific internal reporting guidelines that include all the definitions and instructions necessary for this purpose. Environmental expenditure and investments are reported applying the Eurostat instructions.

Each company has a nominated individual responsible for collection and consolidation of the data, and for its quality and reliability. The management of each company approves the data before it is consolidated at the Group level. The companies report their sustainability data using Wärtsilä's sustainability reporting system. The reported data is checked at both local and Group levels before its consolidation. The content of this Sustainability Report was reviewed and approved by Wärtsilä's Board of Management.

Report assurance

DNV GL Business Assurance Finland Oy Ab (DNV GL) has independently assessed the report against GRI Standards (2016). As part of the assurance process, DNV GL assesses local level data management and processes, evaluates the relevance and reliability of the data reported to headquarters, and assesses whether the reporting guidelines of Wärtsilä are well understood and applied. This is achieved through conducting site visits and videoconferencing. Site visit was carried out in Vaasa, Finland. Wärtsilä Voyage, Wärtsilä Indonesia, Wärtsilä North America, Wärtsilä Iberica and Wärtsilä Japan were assessed through videoconferencing.

Additional sources of information

Wärtsilä has previously published the following reports:

Wärtsilä Environmental Report 2000
Wärtsilä Sustainability Report 2002
Wärtsilä Sustainability Report 2004
Wärtsilä Sustainability Report 2005
Wärtsilä Annual Report 2006
Wärtsilä Annual Report 2007
Wärtsilä Annual Report 2008
Wärtsilä Annual Report 2009
Wärtsilä Annual Report 2010
Wärtsilä Annual Report 2011
Wärtsilä Annual Report 2012
Wärtsilä Annual Report 2013
Wärtsilä Annual Report 2014
Wärtsilä Annual Report 2015
Wärtsilä Annual Report 2016
Wärtsilä Annual Report 2017
Wärtsilä Annual Report 2018

These reports and their sustainability data are available on Wärtsilä's website: <https://www.wartsila.com/sustainability/our-approach/sustainability-reports>

Sustainability Report Project Team

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Materiality assessment

Identified material topics and boundaries

Entities included in the organisation's consolidated financial statements (GRI 102-45)

The entities included in Wärtsilä's Consolidated Financial Statements are listed in the Notes to the Consolidated Financial Statements 36. Subsidiaries.

All the Group companies are included in Wärtsilä's Sustainability reporting. The report covers Wärtsilä's businesses. At the company level, the report includes the parent company and its subsidiaries as well as its manufacturing, service and sales units. The report excludes Wärtsilä's associated companies, joint ventures, and supply chain companies.

Process for defining report content and aspect boundaries (GRI 102- 46, 102-54)

Wärtsilä's Sustainability Reporting 2019 is prepared according to the GRI (Global Reporting Initiative) Standards (2016) and the Reporting Principles for Defining report content. This report has been prepared in accordance with the GRI Standards: Comprehensive option. This means that our reporting covers all the General Disclosures of the GRI Standards framework and all the sustainability topics we have identified as material in our operations.

In 2017, Wärtsilä updated the assessment of material sustainability topics. The process included an assessment of economic, environmental, and social topics from the stakeholders' point of view and as an impact to Wärtsilä's business. Stakeholder views were collected through a questionnaire answered by 88 key stakeholder contacts in various Wärtsilä units and functions worldwide. The aim of the stakeholder questionnaire was to evaluate how important different sustainability topics are for assessments and decision-making of Wärtsilä's stakeholders. Sustainability topics for the stakeholder evaluation were identified based on Wärtsilä's previous experience on material sustainability topics, industry peer review, and analysis of significant economic, environmental and social impacts in Wärtsilä's value chain. The focus on stakeholder assessment was in investors and financiers, major customers, personnel, local societies, and media.

The significance of identified topics was then analysed as a current or potential business impact on Wärtsilä. The business implications of identified sustainability topics were evaluated based on direct financial impacts as well as risks and opportunities. In addition the level of internal policies or practices were used as an indication of potential business impact.

As a result of the materiality assessment, the following GRI topics were identified as material for Wärtsilä:

- Emissions
- Environmental Compliance
- Economic Performance
- Training and education
- Occupational health and safety
- In addition to the identified material aspects Wärtsilä discloses sustainability data on several other areas, because they are frequently asked by Wärtsilä's stakeholders or they are considered important on the basis of continuity of sustainability reporting.

Topic boundaries for the identified material topics were then evaluated in reflection to the sustainability context that is based on the significance of their economic, environmental, and social impacts in our value chain. A more detailed description of the topic boundaries and completeness of data collection for the identified material topics can be found in the GRI 103-1-b and GRI 103-1-c, Topic boundary within the organisation and Topic boundary outside the organisation.

Material topics (GRI 102-47)

From a sustainability impact point of view, product related environmental issues are the most significant for Wärtsilä. The use of Wärtsilä's products has an environmental impact both locally and globally. Other dimensions of sustainability mainly have a local impact.

Sustainability impact	Local	Global
Economic	•	
Environmental		
• Product related	•	•
• Operational	•	
Social	•	

The following GRI topics have been identified as material for Wärtsilä's sustainability reporting:

Category	Topics	Identified material topic for Wärtsilä, reported in accordance with GRI Standards	Other topics included in Wärtsilä Sustainability Reporting	Excluded from Wärtsilä Sustainability Reporting
Economic	Economic performance	•		
	Market presence		•	
	Indirect economic impacts			•
	Procurement practices			•
	Anti-corruption			•
	Anti-competitive behaviour			•
Environmental	Materials		•	
	Energy		•	

	Water		•	
	Biodiversity			•
	Emissions	•		
	Effluents and waste		•	
	Environmental Compliance	•		
	Supplier Environmental assessment		•	
Social	Employment		•	
	Labour/management relations		•	
	Occupational health and safety	•		
	Training and education	•		
	Diversity and equal opportunity		•	
	Non-discrimination		•	
	Freedom of association		•	
	Child Labour		•	
	Forced or compulsory labour		•	
	Security practices			•
	Rights of indigenous people			•

Human rights assessment				•
Local communities				•
Supplier social assessment			•	
Public policy			•	
Customer health and safety			•	
Marketing and labelling			•	
Customer privacy			•	
Socioeconomic compliance			•	

Wärtsilä's sustainability reporting provides a full disclosure of the management approach, relevant general disclosures and material topic-specific disclosures defined by the GRI Standards.

Topic boundary within the organisation (103-1-b and 103-1-c)

The topic boundary for the material topics is all Wärtsilä companies. The economic performance data covers all Wärtsilä companies. The data on environmental and social performance covers all Wärtsilä companies except the following:

- LOCK-N-STITCH Inc.
- Ships Electronic Services Ltd.
- Burriel Navarro S.L.

These companies will be included in Wärtsilä's sustainable development reporting in the forthcoming years. Wärtsilä's Sustainability Reporting is an integrated part of its annual reporting, and therefore Wärtsilä publishes its sustainability data annually.

Coverage of operational data

Operational data, % of Wärtsilä companies

	2019	2018	2017	2016	2015
Economic	100	100	100	100	100
Environmental	96	97	86	93	83
Social	100	100	100	100	100

Operational data, % of personnel

	2019	2018	2017	2016	2015
Economic	100	100	100	100	100
Environmental	99	93	96	98	91
Social	100	100	100	100	100

Operational data, % of product manufacturing

	2019	2018	2017	2016	2015
Economic	100	100	100	100	100
Environmental	100	100	100	100	95
Social	100	100	100	100	100

Topic boundary outside the organisation (GRI 103-1-c)

Wärtsilä's Sustainability Report does not cover performance data collected outside the Group companies.

Explanation of the effect of any re-statements of information provided in earlier reports (GRI 102-48)

There are no major restatements of information provided in previous reports.

Significant changes from previous reporting periods (GRI 102-49)

There are no significant changes from previous reporting periods in the reporting topic boundaries. Historical data covers all entities that were part of the Group at the end of each reporting period.

Reporting principles

Economic performance data

The economic performance data is based on audited financial accounting and covers all Wärtsilä subsidiaries unless otherwise stated.

Donations: The data of this indicator included 15 major Wärtsilä subsidiaries and the parent company in 2019.

Subsidiaries: The data of this indicator included all Wärtsilä subsidiaries and the parent company in 2019.

The social costs for employees contribute to the funding of pensions, unemployment, and other social benefits that provide security and improve the quality of life for the company's employees and their families.

Senior management includes all employees with the highest job grade levels 12-16. At the end of 2019 this covered 103 employees.

Environmental performance data

Materials include all the major material flows used in the production processes globally. The most material consuming product categories include engines, propellers, and propulsion systems.

Total energy consumption includes both direct and indirect energy usage. The direct energy usage includes the fuels used by Wärtsilä subsidiaries. Lower heating values (LHV) are used to calculate the energy consumption of fuels in joules. LHVs are based on information supplied by vendors or results of fuel analysis for engine testing and R&D purposes, and for other fuel consumption the source is the DEFRA (the UK government Department for Environment, Food and Rural Affairs). The indirect energy usage includes the purchased electricity and heat. Since the efficiency of purchased electricity and heat generation is not known, the energy conversion is done directly from the purchased values.

Fuel consumption data is based on either invoices or measured values.

Heat and electricity data is based on either invoices or measured values.

Energy intensity describes the ratio of total internal energy consumption divided by the total net sales of the subsidiaries included in the data gathering in a particular year (TJ/MEUR).

GHG emissions intensity describes the ratio of total greenhouse gas emissions (Scope 1, 2 and 3) divided by the total net sales of the subsidiaries included in the data gathering in a particular year (kgCO₂e/EUR).

Reduction of GHG emissions data is collected on a site level, based on permanent GHG emissions reduction measures, and either calculated or estimated (Scope 1 and 2).

Reduction of energy consumption data is collected on a site level, based on permanent energy saving actions, and either calculated or estimated.

Water consumption: The reported figures are based on either measured values or invoices. The cooling water usage might also be calculated from the heat load in some units.

Recycled water: The reported amount is the total measured recycled water used in Wärtsilä Italia S.p.A. Their water treatment plant provides reusable water for manufacturing processes.

Water discharge: The reported figures are based on either measured values or invoices. The cooling water discharge might also be calculated from the heat load in some units.

Emissions: The reported figures are mainly based on measured values, based on which specific emission factors are determined. The specific emission factors are determined for various fuels and engine types. The emissions of the heating boilers are either measured or calculated. For electricity consumption the indirect CO₂ emissions (Location-based scope 2) are calculated by using the emission factors from IEA (International Energy Agency), and the indirect CO₂ emissions (Market-based scope 2) are calculated by using the residual mix emission factors where available (for Europe and USA), and for other countries the IEA emission factors. For district heating the indirect CO₂ emissions (scope 2) are calculated by using the emission factors from the DEFRA (the UK government Department for Environment, Food and Rural Affairs). The indirect CO₂ emissions (scope 3) of energy consumption are calculated by using the emission factors from DEFRA. The indirect CO₂ emissions (scope 3) of material consumption are calculated by using the emission factors from thinkstep's GaBi database. The CO₂ emissions of air travel (Scope 3) are based on calculations by Wärtsilä's travel agency and are based on DEFRA defined factors. The other-than-GHG emissions of vehicles are calculated by using the VTT (Technical Research Centre of Finland) Lipasto database emission factors. GWP factor used for converting methane emissions to CO₂-equivalent is 25. Only CO₂ and methane are considered for the CO₂ emissions.

Waste: Information on waste disposal methods normally comes from the waste disposal contractor.

Environmental disturbances: As such are considered major incidents, which generally require communication to local authorities.

Social performance data

Total number of injuries: The reported figures include all types of reported work-related injuries, including first-aid cases, as well as commuting injuries and possible fatalities.

Lost time injuries: The reported figures include all reported work-related injuries resulting in absence from work of at least one scheduled work day, lost day counting from the first day after the injury.

LTI frequency is expressed as reported lost time injuries and possible fatalities per million working hours. The working hours are actual paid working hours. The lost time injury rate does not include commuting injuries.

Net employment creation is calculated by deducting the number of permanent employees having left the company for any reason from the amount of newly hired permanent employees during the reporting period.

Employee turnover is calculated from permanent employees. The number of resigned permanent employees is divided by the number of permanent employees at the end of the reporting period.

Employees and other workforce: The data on Wärtsilä employees is mainly from the global SAP HR database. Less than 3% of employees, the amount varying between indicators, have not had all their employment details in the global HR processes, and thus their qualities have been assumed to be the same as on average among the rest of the global employees, i.e. their gender, employment and contract type. The new-hires and resigned employee numbers do not include any such assumptions of employees having joined but still lacking the formal record of that activity.

Independent Assurance Report

Independent Limited Assurance Report

To the Management of Wärtsilä Corporation

Scope of Engagement

Wärtsilä Corporation ("Wärtsilä") commissioned **DNV GL Business Assurance Finland OY/AB** ("DNV GL") to conduct a limited assurance engagement over selected sustainability disclosures presented in the Wärtsilä Annual Report ("Report") for the reporting period 1st January to 31st December 2019.

Selected Information

The scope and boundary of our work is restricted to the General and Topic-specific GRI-disclosures (the "Selected Information"). The location of Selected Information in the Report is specified in the "GRI and UNGC index". In addition, we have reviewed the sustainability information presented in the "Stories" - section marked with "Sustainability Assured".

To assess the Selected Information, which includes an assessment of the risk of material misstatement in the Report, we have used Global Reporting Initiative's GRI standards (2016) and Wärtsilä's reporting principles, (the "Criteria", see Reporting Principles -section of the Report).

We have not performed any work, and do not express any conclusion, on any other information that may be published in the Report or on Wärtsilä's website for the current reporting period.

Our conclusions

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information is not fairly stated and has not been prepared, in all material respects, in accordance with the Criteria. We believe that the Report is in line with the "Comprehensive" requirements of the GRI standards.

This conclusion relates only to the Selected Information, and is to be read in the context of this Assurance Report, in particular the inherent limitations explained below.

Standard and level of assurance

We performed a limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 revised – 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' (revised), issued by the International Auditing and Assurance Standards Board. This standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance.

DNV GL applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less detailed than those undertaken during a reasonable assurance engagement, so the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We planned and performed our work to obtain the evidence we considered sufficient to provide a basis for our opinion, so that the risk of this conclusion being in error is reduced, but not reduced completely.

Basis of our conclusion

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information; our work included, but was not restricted to:

- Assessing the appropriateness of the Criteria for the Selected Information;
- Conducting interviews with Wärtsilä's management to obtain an understanding of the data management systems and processes used to generate, aggregate and report the Selected Information;
- Conducting one physical site visit and five remote site audits to review processes and systems for preparing site-level data consolidated at Head Office. The physical site visit was conducted at:
 - Wärtsilä Finland;
 - and remote site audits at:
 - Wärtsilä Iberica, Spain
 - Wärtsilä Indonesia;
 - Wärtsilä Japan;
 - Wärtsilä North America; and
 - Wärtsilä Transas, Russia.

DNV GL was free to choose the sites on the basis of materiality;

- Reviewing data at source and following this through to consolidated Group data;
- Reviewing whether the evidence, measurements, and scope of the Selected Information is prepared in accordance with the Criteria; and
- Reviewing the Report and narrative accompanying the Selected Information in the Report with regard to the Criteria.
- Evaluation of the disclosed information in the Report for "in accordance – Comprehensive" reporting requirements of GRI standards.

Inherent limitations

Our assurance relies on the premise that the data and information provided by Wärtsilä to us as part of our review procedures have been provided in good faith. Because of the selective nature (sampling) and other inherent limitations of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities may not have been detected. Energy use data utilized in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for determining such data. Finally, the selection of different but acceptable measurement techniques may result in materially different measurements.

DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Independent Assurance Report.

Our competence, independence and quality control

DNV GL established policies and procedures are designed to ensure that DNV GL, its personnel and – where applicable – others are subject to independence requirements (including personnel of other entities of DNV GL) maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals, whose members have not been involved in the development of any of the Criteria. Our multi-disciplinary team consisted of professionals with a combination of environmental and sustainability assurance experience.

Responsibilities of the Management of Wärtsilä and DNV GL

The Management of Wärtsilä have sole responsibility for:

- Preparing and presenting the Selected Information in accordance with the Criteria;
- Designing, implementing and maintaining effective internal controls over the information and data, resulting in the preparation of the Selected Information that is free from material misstatements;
- Measuring and reporting the Selected Information based on their established Criteria; and

- Contents and statements contained within the Report and the Criteria.

Our responsibility is to plan and perform our work to obtain limited assurance about whether the Selected Information has been prepared in accordance with the Criteria and to report to Wärtsilä in the form of an independent limited assurance conclusion, based on the work performed and the evidence obtained. We have not been responsible for the preparation of the Report.

For and on behalf of DNV GL Business Assurance Finland OY/AB

Espoo, Finland,

7th February 2020

Mikael Niskala

Lead Auditor

DNV GL – Business Assurance

Souvik Kumar Ghosh

Principal Consultant and Reviewer

DNV GL – Business Assurance

GRI and UNGC index

General Disclosures

GRI 102: General Disclosures

GRI Standard / Disclosure	Links	Remarks	UNGC
Organisational profile			
102-1 Name of the Organisation	Strategy		•
102-2 Activities, brands, products, and services	Strategy Wärtsilä Energy Business Wärtsilä Marine Business		•
102-3 Location of headquarters	Shares	Helsinki, Finland	•
102-4 Location of operations	Strategy	www.wartsila.com	•
102-5 Ownership and legal form	Shares		•
102-6 Markets served	Strategy		•
102-7 Scale of the organization	Strategy Shareholders		•
102-8 Information on employees and other workers	Social		•
102-9 Supply chain	Supply chain management		•
102-10 Significant changes to the organization and its supply chain	Social		•
102-11 Precautionary Principle or approach	Product design principles Risks and risk management Manufacturing and R&D		•
102-12 External initiatives	Stakeholder relations		
102-13 Membership of associations	Stakeholder relations		
Strategy			
102-14 Statement from senior decision-maker	CEO review		•
102-15 Key impacts, risks, and opportunities	Risks and risk management Strategy Wärtsilä Energy Business Wärtsilä Marine Business Innovating for sustainability		•
Ethics and integrity			
102-16 Values, principles, standards, and norms of behaviour	Strategy Guiding principles		•
102-17 Mechanisms for advice and concerns about ethics	Guiding principles Compliance		•
Governance			
102-18 Governance structure	Corporate governance Board of Directors		•
102-19 Delegating authority	Corporate governance Board of Directors		•
102-20 Executive-level responsibility for economic, environmental, and social topics	Board of Management		•
102-21 Consulting stakeholders on economic, environmental, and social topics	Annual General Meeting Internal control		•
102-22 Composition of the highest governance body and its committees	Board of Directors		•
102-23 Chair of the highest governance body	Board of Directors		•
102-24 Nominating and selecting the highest governance body	Annual General Meeting Board of Directors	The nomination committee proposes new board members. The committee consults major shareholders, and in their proposals they take into account the specific needs of the Board, including sustainability competencies and diversity.	•
102-25 Conflicts of interest	Board of Directors Insider management Shareholders		•
102-26 Role of highest governance body in setting purpose, values, and strategy	Board of Directors Internal control		•
102-27 Collective knowledge of highest governance body	Internal control Board of Management		•
102-28 Evaluating the highest governance body's performance	Board of Directors	The evaluation is of general nature, but also includes sustainability issues if such concerns arise. The evaluation partly affects the membership changes within the Board.	•
102-29 Identifying and managing economic, environmental, and social impacts	Board of Directors Risks and risk management		•

102-30 Effectiveness of risk management processes	Board of Directors		•
102-31 Review of economic, environmental, and social topics	Board of Directors The Board's committees Internal control	9 meetings in 2019	•
102-32 Highest governance body's role in sustainability reporting	Report profile		•
102-33 Communicating critical concerns	Internal control		•
102-34 Nature and total number of critical concerns		This information is not publicly disclosed.	•
102-35 Remuneration policies	Remuneration report 2019		•
102-36 Process for determining remuneration	The Board's committees People management		•
102-37 Stakeholders' involvement in remuneration	Remuneration report 2019		•
102-38 Annual total compensation ratio		This information is not publicly disclosed.	•
102-39 Percentage increase in annual total compensation ratio		This information is not publicly disclosed.	•
Stakeholder engagement			
102-40 List of stakeholder groups	Stakeholder relations		•
102-41 Collective bargaining agreements		56% of Wärtsilä employees were covered by collective bargaining agreements in 2019.	•
102-42 Identifying and selecting stakeholders	Stakeholder relations		•
102-43 Approach to stakeholder engagement	Stakeholder relations Customer satisfaction		•
102-44 Key topics and concerns raised	Stakeholder relations		•
Reporting practice			
102-45 Entities included in the consolidated financial statements	Materiality assessment		
102-46 Defining report content and topic Boundaries	Materiality assessment		
102-47 List of material topics	Materiality assessment		
102-48 Restatements of information	Materiality assessment		
102-49 Changes in reporting	Materiality assessment		
102-50 Reporting period	Report profile		•
102-51 Date of most recent report	Report profile		•
102-52 Reporting cycle	Report profile		•
102-53 Contact point for questions regarding the report	Report profile		•
102-54 Claims of reporting in accordance with the GRI Standards	Materiality assessment		•
102-56 External assurance	Independent Assurance Report		•

GRI 103: Management Approach

GRI Standard / Disclosure	Links	Remarks	UNGC
103-1 Explanation of the material topic and its Boundary	Materiality assessment		•
103-2 The management approach and its components	Sustainability at Wärtsilä		•
103-3 Evaluation of the management approach	Sustainability at Wärtsilä Targets Sustainability data Risks and risk management		•

Topic-specific standards

GRI 200 Economic Standard Series

GRI Standard / Disclosure	Links	Omissions	UNGC	Material topic disclosures
GRI 201: Economic Performance				
201-1 Direct economic value generated and distributed	Economic performance			•
201-2 Financial implications and other risks and opportunities due to climate change	Economic performance Risks and risk management			•
201-3 Defined benefit plan obligations and other retirement plans	Economic performance			•
201-4 Financial assistance received from government	Economic performance			•
GRI 202: Market Presence				

202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Market presence	Only reported the Management Approach disclosure.	•	
202-2 Proportion of senior management hired from the local community	Market presence		•	
GRI 205: Anti-corruption				
205-1 Operations assessed for risks related to corruption	Risks and risk management	Coverage of risk management processes is 100% of our operations.		
205-2 Communication and training about anti-corruption policies and procedures	Responsible business conduct			
205-3 Confirmed incidents of corruption and actions taken	Compliance			
GRI 206: Anti-competitive behaviour				
206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Compliance			

GRI 300 Environmental Standard Series

GRI Standard / Disclosure	Links	Omissions	UNGC	Material topic disclosures
GRI 303: Materials				
301-1 Materials used by weight or volume	Materials		•	
301-2 Recycled input materials used	Materials	The recycled material input of metals varies between 20% and 95%, depending on the type of furnace and foundry used by the metal recycling companies in the supply chain, of which there are too many to state an exact percentage.	•	
GRI 301: Energy				
302-1 Energy consumption within the organization	Energy		•	
302-3 Energy intensity	Energy		•	
302-4 Reduction of energy consumption	Energy		•	
GRI 303: Water				
303-1 Water withdrawal by source	Water		•	
303-2 Water sources significantly affected by withdrawal of water	Water			
303-3 Water recycled and reused	Water			
GRI 305: Emissions				
305-1 Direct (Scope 1) GHG emissions	Emissions		•	•
305-2 Energy indirect (Scope 2) GHG emissions	Emissions		•	•
305-3 Other indirect (Scope 3) GHG emissions	Emissions		•	•
305-4 GHG emissions intensity	Emissions		•	•
305-5 Reduction of GHG emissions	Emissions		•	•
305-6 Emissions of ozone-depleting substances (ODS)	Emissions	Not applicable, Wärtsilä does not produce, import or export ODS.	•	•
305-7 Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	Emissions		•	•
GRI 306: Effluents and Waste				
306-1 Water discharge by quality and destination	Effluents and waste		•	
306-2 Waste by type and disposal method	Effluents and waste		•	
306-3 Significant spills	Effluents and waste		•	
GRI 307: Environmental Compliance				
307-1 Non-compliance with environmental laws and regulations	Compliance		•	•

GRI 400 Social Standard Series

GRI Standard / Disclosure	Links	Omission	UNGC	Material topic disclosures
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GRI 401: Employment				
401-1 New employee hires and employee turnover	<u>Employment</u>		•	
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	<u>Employment</u>			
GRI 402: Labour/Management Relations				
402-1 Minimum notice periods regarding operational changes	<u>Labour/Management Relations</u>		•	
GRI 403: Occupational Health and Safety				
403-1 Workers representation in formal joint management-worker health and safety committees	<u>Occupational health and safety</u>		•	•
403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	<u>Occupational health and safety</u>	Injury rate (non-lost time), occupational disease rate classifications by region and gender not reported. These will be studied and analysed in 2020.	•	•
403-3 Workers with high incidence or high risk of diseases related to their occupation	<u>Occupational health and safety</u>		•	•
403-4 Health and safety topics covered in formal agreements with trade unions	<u>Responsible business conduct</u>	In some cases local collective bargaining agreements also cover OHS issues. Detailed listing of the topics not applicable, as it is not considered meaningful information.	•	•
GRI 404: Training and Education				
404-1 Average hours of training per year per employee	<u>Training and education</u>		•	•
404-2 Programs for upgrading employee skills and transition assistance programs	<u>Training and education</u>	Various types of training can be offered in restructuring situations, however specific actions are defined case by case.		•
404-3 Percentage of employees receiving regular performance and career development reviews	<u>Training and education</u>		•	•
GRI 405: Diversity and Equal Opportunities				
405-1 Diversity of governance bodies and employees	<u>Employment Diversity and equal opportunity</u>		•	
GRI 406: Non-discrimination				
406-1 Incidents of discrimination and corrective actions taken	<u>Compliance</u>		•	
GRI 415: Public Policy				
415-1 Political contributions	<u>Compliance</u>		•	
GRI 416: Customer Health and Safety				
416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	<u>Compliance</u>			
GRI 417: Marketing and Labelling				
417-2 Incidents of non-compliance concerning product and service information and labelling	<u>Compliance</u>			
417-3 Incidents of non-compliance concerning marketing communications	<u>Compliance</u>			
GRI 418: Customer Privacy				
418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	<u>Compliance</u>			
GRI 419: Socioeconomic Compliance				
419-1 Non-compliance with laws and regulations in the social and economic area	<u>Compliance</u>			

Governance

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Corporate governance

Wärtsilä Corporation complies with the guidelines and provisions of its Articles of Association, the Finnish Limited Liability Companies Act, and the rules and regulations of Nasdaq Helsinki Ltd. Wärtsilä also applies the Global Reporting Initiative's G4 Sustainability Reporting Guidelines and complies with the Finnish Corporate Governance Code 2020 ("the Code") issued by the Finnish Securities Market Association. However, the Remuneration report for 2019 is provided in accordance with the Finnish Corporate Governance Code 2015. The Code is publicly available at <http://cgfinland.fi/en>. Wärtsilä has not deviated from any of the Code's recommendations.

Wärtsilä's Corporate Governance Statement is published as a separate statement on Wärtsilä's website, as well as in this Annual Report. The content of this Corporate Governance section fully corresponds with Wärtsilä's Corporate Governance Statement. Wärtsilä's Audit Committee has reviewed the Corporate Governance Statement. The company's external auditor has monitored the issuing of the statement and has verified that the description of the main features of the internal control and risk management section, as related to the financial reporting process included in the statement, reconciles with the Financial Statements.

Governing bodies

Wärtsilä applies a single-tier governance model. The General Meeting of shareholders, the Board of Directors, and the President & CEO are responsible for the management of the Wärtsilä Group. Their duties are, for the most part, defined by the Finnish Companies Act. The General Meeting of shareholders elects the Board of Directors and the auditor. The Board of Directors is responsible for the strategic management of the company and is assisted in its work by the Board Committees. The Board appoints the President & CEO, who is in charge of the operative, day-to-day management of the company, with support from the Board of Management.

Wärtsilä's governance model

External Audit

Elected by the AGM to audit the consolidated and parent company financial statements and accounting records, and the administration of the parent company.

Internal Audit

Analyses the company's operations and processes, as well as the effectiveness and quality of its supervision mechanisms. The function reports at regular intervals to the Audit Committee.

Annual General Meeting

The Annual General Meeting is Wärtsilä's ultimate decision-making body.

Board of Directors

The Board of Directors consists of eight members elected by the AGM. They are responsible for the strategic management of the company.

President & CEO

The Board of Directors appoints the President & CEO, who is in charge of the operative, day-to-day management of the company.

Board of Management

The Board of Management supports the President & CEO in his duties.

Audit Committee

The committee's responsibilities include monitoring the financial reporting process and the efficiency of the internal control, internal audit, and risk management systems.

Nomination Committee

The committee's responsibilities include preparing the proposal for the General Meeting regarding the election of the directors for the Board.

Remuneration Committee

The committee's responsibilities include preparing matters concerning the nomination and remuneration of the President & CEO, the CEO's deputy and the members of the Board of Management.

Annual General Meeting

Wärtsilä's ultimate decision-making body is the General Meeting of shareholders. It resolves issues as defined for General Meetings in the Finnish Companies Act and the company's Articles of Association. The agenda items for the General Meeting of shareholders include the following:

- approving the financial statements
- deciding on the distribution of dividends
- discharging the company's Board of Directors and President & CEO from liability for the financial year
- electing the company's Board of Directors and auditor and deciding on their remuneration

A General Meeting of Wärtsilä Corporation is held at least once a year, at a time no later than the end of June. If needed, the company may also hold Extraordinary General Meetings. An invitation to the General Meeting is published on the company's website or in a minimum of two daily newspapers, which are commonly distributed in Finland, as decided by the Board of Directors. The invitation shall be published no earlier than two months and no later than three weeks prior to the General Meeting. It shall, however, be published at least nine days prior to the shareholders' record date. Wärtsilä also publishes the invitation to its General Meetings as a stock exchange release. The documents and draft resolutions to be submitted to the General Meeting can be found on Wärtsilä's website.

Shareholders have the right to add items falling within the competence of the Annual General Meeting to the meeting's agenda. The request must be submitted to the Board of Directors in writing sufficiently in advance of the meeting, so that the item can be added to the Notice of the General Meeting. Wärtsilä publishes on its website the date by which a shareholder must notify the company's Board of Directors of an issue that he or she demands to be addressed at the General Meeting. This information is given no later than by the end of the financial period preceding the General Meeting and includes the postal or email address to which the demand shall be sent. The demand is always deemed to have arrived in time, if the Board is notified of the demand no later than four weeks before the delivery of the Notice of the General Meeting.

All shareholders registered by the record date in the company's list of shareholders maintained by Euroclear Finland Ltd have the right to attend the Annual General Meeting. Each share entitles the holder to one vote. The Chairman of the Board of Directors, the members of the Board of Directors, and the President & CEO are present at the General Meeting. The auditor-in-charge also attends the Annual General Meeting. Director candidates shall also be present at the General Meeting that decides upon their election.

Annual General Meeting 2019

Wärtsilä's Annual General Meeting was held on 7 March 2019. A total of 1,904 shareholders representing 355,176,251 votes participated in person or by proxy.

The Annual General Meeting approved the financial statements and discharged the members of the Board of Directors and the company's President & CEO from liability for the financial year 2018. The audit firm PricewaterhouseCoopers Oy was elected as the auditor of the company for the year 2019. The Meeting approved the Board of Directors' proposal to pay a dividend of EUR 0.48 per share in two instalments. The first instalment of EUR 0.24 per share was paid on 18 March 2019. The second dividend instalment of EUR 0.24 per share was paid on 27 September 2019. The Board of Directors was authorised to resolve to repurchase a maximum of 57,000,000 of the company's own shares. The Board of Directors was authorised to resolve to issue shares in the company as follows: The Board may issue either new shares or transfer own shares held by the company. The maximum number of shares to be so issued shall not exceed 57,000,000. The shares can be issued for consideration or without consideration. They can also be issued in deviation from the shareholders' pre-emptive rights by way of a directed issue if there is a weighty financial reason for the company to do so. These authorisations were not used by the Board of Directors in 2019. All resolutions were taken without voting. The minutes of the meeting and other related documents can be found on Wärtsilä's website: www.wartsila.com/investors/governance.

Board of Directors

Mikael Lilius

Independent of the company and significant shareholders. Chairman of the Board of Wärtsilä Corporation. Born 1949, B.Sc. (Econ.). Member of the Board of Wärtsilä Corporation since 2010, Chairman of the Board since 2011.

Primary working experience

Fortum Oyj, President & CEO, 2000-2009; Gambro AB, President & CEO, 1998-2000; Incentive AB, President & CEO, 1991-1998; KF Industri AB (Nordico), President & CEO, 1989-1991; Huhtamäki Oy, President of the Packing Division, 1986-1989

Other positions of trust

Ahlström Capital Oy and Metso Corporation, Chairman of the Board; Evli Bank Ltd., Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 65,392 shares



Tom Johnstone CBE

Independent of the company, dependent of significant shareholders. Born 1955, Master of Arts, Honorary Doctorate in Business Administration and Honorary Doctorate in Science. Member of the Board of Wärtsilä Corporation since 2015, Deputy Chairman of the Board since 2017.

Primary working experience

SKF Group, several management posts, of which the most recent was President and CEO of AB SKF, 2003-2014

Other positions of trust

British Swedish Chamber of Commerce, Combient AB, and Husqvarna AB, Chairman of the Board; Investor AB, Northvolt AB, and Volvo Cars, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 11,693 shares



Maarit Aarni-Sirviö

Independent of the company and significant shareholders. Born 1953, M.Sc. (Tech.), eMBA. Member of the Board of Wärtsilä Corporation since 2007.

Primary working experience

Directors' Institute Finland – Hallitusammattilaiset ry, Secretary General, 2012-2019; Boardview Oy, Managing Director, 2012-2019; Mint of Finland Ltd., President and CEO, 2008-2010; Borealis Group, several senior positions in 1994-2008 of which the most recent were Vice President BU Phenol, 2001-2008, and Vice President BU Olefins, 1997-2001; Neste Oyj, 1977-1994

Other positions of trust

Finland National Committee for UN Women, Chairman of the Board; Korona Invest, Senior Advisor

Relevant prior positions of trust

Board memberships: Directors' Institute Finland – Hallitusammattilaiset ry, 2011-2019; ecoDa (The European Confederation of Directors' Associations), 2012-2019; Berendsen plc, 2014-2017; Rautaruukki Oyj, 2005-2012; Ponsse Oyj, 2007-2010; Vattenfall AB, 2004-2007

Holdings in Wärtsilä Corporation on 31.12.2019: 34,503 shares



Kaj-Gustaf Bergh

Independent of the company and significant shareholders. Born 1955, B.Sc., LL.M. Member of the Board of Wärtsilä Corporation since 2008.

Primary working experience

Föreningen Konstsamfundet r.f., Managing Director, 2006-2018; Skandinaviska Enskilda Banken, Member of management, 2000-2001; SEB Asset Management, Director, 1998-2001; Ane Gyllenberg Ab, Chief Executive Officer, 1986-1998; Oy Bensow Ab, Director, Executive Vice President, 1985-1986; Ane Gyllenberg Ab, Administrative manager, 1984-1985; Ky von Konow & Co, Administrative manager, 1982-1983

Other positions of trust

Julius Tallberg Oy Ab and Novia University of Applied Sciences, Chairman of the Board; Veritas Pension Insurance and JM AB, Member of the Board

Relevant prior positions of trust

Board chairmanships: Mercator Invest Ab, 2014-2018; KSF Media Holding Ab, 2007-2018; Sponda Oyj, 2013-2017; Stockmann plc, 2014-2016; Fiskars Corporation, 2006-2014; Ålandsbanken Abp, 2011-2013; Aktia Abp, 2005-2009

Board memberships: Fiskars Corporation, 2014-2015; Stockmann plc, 2007-2013

Holdings in Wärtsilä Corporation on 31.12.2019: 33,769 shares



Karin Falk

Independent of the company and significant shareholders. Born 1965, B.Sc. (Econ.). Senior Vice President Volvo Trucks Services & Customer Quality. Member of the Board of Wärtsilä Corporation since 2017.

Primary working experience

Volvo Group, Executive Vice President, Corporate Strategy & Brand Portfolio, 2012-2016; Volvo Group, President, Non-Automotive Purchasing, 2008-2012; Volvo Car Corporation, Vice President, Volvo Car Customer Service, 2006-2008; Volvo Car Corporation, President, Volvo Car Special Vehicles, 2001-2006; Volvo Cars and Volvo Group, various positions, 1988-2001

Other positions of trust

Volvo Group Venture Capital, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 5,073 shares



Johan Forssell

Independent of the company, dependent of significant shareholders. Born 1971, M.Sc. (Economics and Business Administration). President and CEO of Investor AB. Member of the Board of Wärtsilä Corporation since 2017.

Primary working experience

Investor AB, Head of Core Investments and Member of the Management Group, 2006-2015; Investor AB, Project Director, 2014; Aleris AB, Head of Research, 2003-2006; Investor AB, Head of Capital Goods and Healthcare sector, 2001-2003; Investor AB, Head of Capital Goods sector and Analyst, 1995-1999

Other positions of trust

Atlas Copco, Epiroc AB, EQT AB, and Patricia Industries, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 5,073 shares



Risto Murto

Independent of the company and significant shareholders. Born 1963, Ph.D. (Econ.). President & CEO of Varma Mutual Pension Insurance Company. Member of the Board of Wärtsilä Corporation since 2014.

Primary working experience

Varma, Executive Vice President, Investments, 2010-2013; Varma, Chief Investment Officer, Investments, 2006-2010; Opstock Ltd, Managing Director, 2000-2005; Opstock Ltd, Head of Equities and Research, 1997-2000; Erik Selin Ltd., Head of Research, 1993-1997

Other positions of trust

The Finnish Pension Alliance TELA, Finance Finland (FFI), and Sampo plc, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 11,013 shares



Markus Rauramo

Independent of the company and significant shareholders. Born 1968, M.Sc. (Econ. and Pol. Hist.). Chief Financial Officer and Member of the Fortum Executive Management Team. Member of the Board of Wärtsilä Corporation since 2011.

Primary working experience

Fortum Corporation, Executive Vice President, City Solutions Division, 2016-2017; Fortum Corporation, Executive Vice President, Heat, Electricity Sales and Solutions Division, 2014-2016; Fortum Corporation, Chief Financial Officer, 2012-2014; Stora Enso Oyj, CFO and Member of the Group Executive Team, 2008-2012; Stora Enso International, SVP Group Treasurer, 2004-2008; Stora Enso Oyj, VP Strategy and Investments, 2001-2004; Stora Enso Financial Services, VP Head of Funding, 1999-2001; Enso Oyj, several financial tasks, 1993-1999

Other positions of trust

Teollisuuden Voima Oyj, Member of the Board; Uniper SE, Vice Chairman of the Supervisory Board

Holdings in Wärtsilä Corporation on 31.12.2019: 18,675 shares



Operations of the Board of Directors

Responsibility for the management of the company and the proper organisation of its operations lies with the company's Board of Directors, which is composed of five to ten members. Board members serve for one year at a time and are elected by the General Meeting.

According to the Corporate Governance Code's recommendation 10, the majority of Board members shall be independent of the company, and at least two of the members representing this majority shall be independent of significant shareholders of the company. The Board evaluates the independence of its members annually and re-evaluates it as necessary.

The Nomination Committee prepares the proposal for the General Meeting regarding the election of directors to the Board and communicates with significant shareholders, when required, on matters pertaining to the proposal. The proposal for the composition of the Board is included in the Notice of the General Meeting. The same applies to a proposal for the composition of the Board made by shareholders with at least 10% of the votes carried by the company shares, provided that the candidates have given their consent to the election, and the company has received information on the proposal sufficiently in advance as to be included in the Notice of the General Meeting. The candidates proposed shall be disclosed separately. Wärtsilä publishes the biographical details of the candidates for the Board on its website in connection with the publication of the Notice of the General Meeting.

The Board elects a chairman and a deputy chairman from among its members. The Board steers and supervises the company's operations and decides on policies, goals, and strategies of major importance. The principles applied by the Board to its regular work are set out in the Board Charter. The Board also approves the rules of

procedure applied by the Board's committees setting out their main tasks and working principles. In addition to matters requiring its decision, the Board is given updates on the Group's operations, financial position and risks at its meetings.

The Board conducts an annual self-evaluation of its operations and working methods. The purpose of this evaluation is to assess how the Board has executed its tasks during the year and to act as a basis for developing Board functions.

The Board of Directors convenes from eight to eleven times a year, following a pre-determined schedule. In addition to these meetings, the Board convenes as necessary. All board meetings are documented.

Diversity principles

For the Board of Directors to discharge its duties in the most effective manner, the Board must be highly qualified and sufficiently diverse. When preparing its proposal for the Board's composition, the Nomination Committee considers the educational and professional background of the individual candidates, as well as their international experience, so that the composition of the Board represents a wide variety of competencies and qualifications. The Nomination Committee also considers the candidates' age, as having different seniority levels on the Board is considered beneficial in terms of ensuring a mutually complementary experience.

With regards to gender, Wärtsilä's principle is to have both genders represented on the Board. In December 2019, Wärtsilä had two female board members out of eight members in total. The objective of the company is to achieve a more balanced representation of both genders on the Wärtsilä Board over time.

The Nomination Committee assesses the potential candidates, not only in terms of their individual qualifications and characteristics, but also in terms of their ability to effectively work together and jointly support and challenge the company management in a proactive and constructive way.

Board of Directors in 2019

As of 7 March 2019, the Board consisted of the following eight members: Ms Maarit Aarni-Sirviö, Mr Kaj-Gustaf Bergh, Ms Karin Falk, Mr Johan Forssell, Mr Tom Johnstone (Deputy Chairman), Mr Mikael Lilius (Chairman), Mr Risto Murto, and Mr Markus Rauramo.

All eight Board members were determined to be independent of the company, with the exception of Mr Markus Rauramo who was dependent of the company from March to July, due to an interlocking relationship resulting from Wärtsilä Corporation's Board of Management member Mr Marco Ryan's appointment to the Board of Directors of Fortum. Mr Ryan left Wärtsilä in July. Six Board members were determined to be independent of significant shareholders. Mr Tom Johnstone was determined to be dependent of significant shareholders, due to his position on the board of Investor AB. Mr Johan Forssell was determined to be dependent of significant shareholders, due to his position as the President and CEO of Investor AB.

Until 7 March 2019, the Board consisted of the following eight members: Ms Maarit Aarni-Sirviö, Mr Kaj-Gustaf Bergh, Ms Karin Falk, Mr Johan Forssell, Mr Tom Johnstone (Deputy Chairman), Mr Mikael Lilius (Chairman), Mr Risto Murto, and Mr Markus Rauramo.

During 2019, Wärtsilä's Board of Directors held nine meetings. The average attendance of all directors was 100%. The financial and strategic development of Wärtsilä and its position in the markets, its growth opportunities and profitability development, and the general further development of the company have been, among others, the major items on the Board's agenda. People matters are also an important and continuous part of the Board's work, as they contribute to Wärtsilä's long-term success. During 2019, areas of particular focus included the implications of geopolitical uncertainty and trade tensions, manufacturing and R&D operations, project management, Wärtsilä's digital strategy, and business development in Asia.

Board member meeting participation in 2019

	Number of meetings	% of meetings
Mikael Lilius, Chairman	9/9	100
Tom Johnstone, Deputy Chairman	9/9	100
Maarit Aarni-Sirviö	9/9	100
Kaj-Gustaf Bergh	9/9	100
Karin Falk	9/9	100
Johan Forssell	9/9	100
Risto Murto	9/9	100
Markus Rauramo	9/9	100

Responsibilities of the Board of Directors

The Board considers all matters stipulated to be the responsibility of a board of directors by legislation, other regulations, and the company's Articles of Association. The most important of these are:

- the annual and interim financial statements
- matters to be put before the General Meetings of shareholders
- the appointment of the President & CEO, the Executive Vice Presidents and the CEO's deputy, if any
- the organisation of financial supervision within the company

The Board is also responsible for considering any matters that are so far-reaching with respect to the area of the Group's operations that they cannot be considered to fall within the scope of the Group's day-to-day administration. Examples of such matters include:

- approval of the long-term goals of the Group and its businesses, as well as the strategies to achieve them
- monitoring the developments, opportunities and threats in the external environment, and their impact on goals and strategy
- approval of the annual business plan and target setting for the Group
- approval of risk management principles
- monitoring and assessing the performance of the President & CEO
- approval of the remuneration and pension benefits of the President & CEO, the Executive Vice Presidents and the CEO's deputy, if any
- approval of the corporate governance principles
- overseeing that the company complies with legal and regulatory requirements and its Code of Conduct and other established values and ethical principles in its operations
- discussing and monitoring the R&D and product development plans of the company
- appointing the Board committees
- granting charitable donations
- approval of other matters that are strategically or financially important, such as significant investments, acquisitions or divestments

The Board's committees

The Board of Directors appoints annually an Audit Committee, a Nomination Committee, and a Remuneration Committee and may also nominate other committees if considered necessary in its constitutive meeting following the Annual General Meeting. The Board appoints the members of these committees and their chairmen, taking into consideration the expertise and experience required for the duties of the committee. The Board also has the right to remove a member from a committee. The members of each committee are appointed for the same term of office as

the Board itself. In addition to the committee members, other Board members may participate in committee meetings, if they so wish. The purpose of the Board's committees is to prepare matters to be put before the Board for its decision. The committees have no decision-making authority of their own.

The Audit Committee

The Board of Directors appoints an Audit Committee to assist it in the performance of its supervisory duties. The Board appoints from among its members at least three members to the Committee. These members shall have the qualifications necessary to perform the responsibilities of the Audit Committee. The majority of the members of the Audit Committee shall be independent of the company and at least one member shall be independent of the company's significant shareholders.

The Board defines the duties of the Audit Committee in the charter confirmed for the Committee. The Audit Committee monitors the financial statement reporting process, as well as the efficiency of the internal control, internal audit, and risk management systems. Furthermore, the Committee reviews the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, monitors the statutory audit of the financial statements and consolidated financial statements, evaluates the independence of the statutory audit firm, and prepares the proposal for resolution on the election of the auditor. Other duties of the Audit Committee include reviewing the accounting principles of the company and approving any amendments to them, reviewing the interim and financial statements of the company and the reports prepared by the auditor for the Audit Committee, as well as evaluating the processes aimed at ensuring compliance with laws and regulations and monitoring the company's credit position and taxation. The Audit Committee also reviews the company's Corporate Governance Statements and reviews and resolves any special issues raised by the Board of Directors that fall within the competence of the Audit Committee.

The Chairman of the Audit Committee convenes the Committee as required. The Chairman also reports the Committee's proposals to the Board of Directors and regularly reports to the Board on the Committee's meetings.

Audit Committee in 2019

Chairman Markus Rauramo, members Maarit Aarni-Sirviö, and Risto Murto. All members are independent of the company and significant shareholders. The Audit Committee met five times in 2019. The average attendance of all Committee members was 100%.

The Nomination Committee

The Board of Directors appoints a Nomination Committee to assist in its work. The Board appoints at least three of its members to serve on the Committee. The majority of the members of the Committee shall be independent of the company.

The Board defines the duties of the Nomination Committee in the charter confirmed for the Committee. The Nomination Committee prepares the proposal to be put before the General Meeting regarding the election of the directors to the Board. The Committee communicates, when required, with major shareholders on matters pertaining to the election of the directors to the Board. The Nomination Committee prepares matters concerning the remuneration applicable to Board members. The Nomination Committee monitors and reports to the Board of Directors the achievement related to the Board's diversity objectives on a yearly basis, and, if needed, the Committee proposes adjustments to the Diversity Policy for the Board of Directors.

The Chairman of the Nomination Committee convenes the Committee as required. He also reports the Committee's proposals to the Board of Directors and regularly reports to the Board on the Committee's meetings.

Nomination Committee in 2019

Chairman Mikael Lilius, members Kaj-Gustaf Bergh, Johan Forssell, and Risto Murto. All members are independent of the company and three are independent of significant shareholders. In addition to several discussions, the Nomination Committee held five formal meetings in 2019. The average attendance of all Committee members was 100%.

The Remuneration Committee

The Board appoints a Remuneration Committee to assist in its work. The Board appoints at least three of its members to sit on the Committee. The majority of the members of the Committee shall be independent of the company.

The Board defines the duties of the Remuneration Committee in the charter confirmed for the Committee. The Remuneration Committee prepares, as necessary, matters concerning the appointment of the President & CEO, the CEO's deputy, if any, and other members of the Board of Management for the Board of Directors. The Committee prepares proposals for the Board of Directors concerning the remuneration principles, incentive schemes, and remuneration that apply to the President & CEO and the members of the Board of Management. External consultants used by the committee are independent of the company and management.

The Chairman of the Remuneration Committee convenes the Committee as required. He also reports the Committee's proposals to the Board of Directors and regularly reports to the Board on the Committee's meetings.

Remuneration Committee in 2019

Chairman Mikael Lilius, members Maarit Aarni-Sirviö and Tom Johnstone. All members are independent of the company and two are independent of significant shareholders. The Remuneration Committee met four times in 2019. The average attendance of all Committee members was 100%.

Board member committee meeting participation in 2019

	Audit Committee	Nomination Committee	Remuneration Committee
Mikael Lilius	-	5/5	4/4
Tom Johnstone	-	-	4/4
Maarit Aarni-Sirviö	5/5	-	4/4
Kaj-Gustaf Bergh	-	5/5	-
Karin Falk	-	-	-
Johan Forssell	-	5/5	-
Risto Murto	5/5	5/5	-
Markus Rauramo	5/5	-	-

Board of Management

Jaakko Eskola

President & CEO of Wärtsilä Corporation since 2015. Born 1958, M.Sc. (Eng.). Joined the company in 1998.

Primary working experience

Wärtsilä Corporation, Senior Executive Vice President and Deputy to the CEO, 2013-2015; Wärtsilä Corporation, President, Marine Solutions, 2006-2015; Wärtsilä Corporation, Vice President, Power Plants Sales & Marketing, 2005-2006; Wärtsilä Development & Financial Services Oy, President, 1998-2005; PCA Corporate Finance, Executive Director, 1997-1998; Kansallis-Osake-Pankki, various managerial positions in international project finance, 1986-1997; Industrialization Fund of Finland, Corporate Analyst, 1984-1986; VTT Technical Research Centre of Finland, Researcher, 1983-1984

Positions of trust

Ahlstrom-Munksjö Oyj, The Federation of Finnish Technology Industries and The Finnish Foundation for Share Promotion, Member of the Board

Relevant prior positions of trust

European Marine Equipment Council (EMEC), President, 2008-2011

Holdings in Wärtsilä Corporation on 31.12.2019: 41,739 shares



Arjen Berends

Executive Vice President and Chief Financial Officer since 2018. Born 1968, MBA. Joined the company in 1988.

Primary working experience

Wärtsilä Corporation, Vice President, Finance & Business Control, Marine Solutions, 2012-2018; Wärtsilä Corporation, Vice President, Finance & Business Control, Wärtsilä Industrial Operations, 2010-2012; Wärtsilä Corporation, Finance Director, Wärtsilä Industrial Operations, 2007-2010; Finance Director, Propulsor Business & Finance Director, Wärtsilä Propulsion Netherlands B.V., 2002-2007; Controller Marine / Manufacturing & Finance Director, Wärtsilä Norway AS, 1998-2002; Wärtsilä Netherlands B.V., various controller positions, 1988-1998

Holdings in Wärtsilä Corporation on 31.12.2019: no shares



Alid Dettke

Executive Vice President, Human Resources since 24 October 2019. Born 1981, Double-degree BA (Hons) European Business. Joined the company in 2017.

Primary working experience

Wärtsilä Corporation, Vice President, Open Innovation, 2018-2019; Wärtsilä Corporation, Vice President, Digital Innovation, 2017-2018; Accenture Interactive, Senior Manager, Digital, Accenture Singapore, 2012-2017; Accenture Interactive, Manager, Digital, Accenture Singapore, 2010-2012; Accenture Interactive, Consultant, Digital, Accenture Singapore, 2007-2010; Research International Asia, Senior Research Executive, 2005-2006; BASF, Management Trainee, Regional e-Commerce Solutions, BASF South East Asia, 2004

Holdings in Wärtsilä Corporation on 31.12.2019: no shares



Kari Hietanen

Executive Vice President, Corporate Relations and Legal Affairs since 2012, Company Secretary since 2002. Born 1963, LL.M. Joined the company in 1989.

Primary working experience

Wärtsilä Corporation, Executive Vice President, Human Resources and Legal Affairs, 2002-2011; Wärtsilä Corporation, Power Divisions, Group General Counsel, 2000-2002; Wärtsilä Diesel Group, General Counsel, 1994-1999; Metra Corporation and Wärtsilä Diesel Group, Legal Counsel, 1989-1994

Positions of trust

European Engine Power Plants Association, EUGINE, Vice President; German-Finnish Chamber of Commerce, Member of the Board; Finnish-Russian Intergovernmental Economic Commission, II Deputy Chairman; Finnish-Korean Trade Association, Member of the Board; East Office of Finnish Industries Ltd, Member of the Board; Confederation of Finnish Industries (EK), Member of the Trade Policy Committee; International Trade Committee, Finland Chamber of Commerce / ICC Advisory Board, ICC Finland, Member

Holdings in Wärtsilä Corporation on 31.12.2019: 15,633 shares



Roger Holm

President, Marine Business and Executive Vice President since 2015. Born 1972, M.Sc. (Econ.). Joined the company in 1997.

Primary working experience

Wärtsilä Corporation, Senior Vice President, Engines, 2013-2015; Wärtsilä Corporation, Vice President, Seals & Bearings, 2011-2013; Wärtsilä Corporation, Vice President, Solutions Management, Services, 2010-2011; Wärtsilä Corporation, Vice President, Business Development, Services, 2008-2010; Wärtsilä Corporation, Chief Information Officer, 2006-2008; Wärtsilä Corporation, Program Director, Global ERP Program, 2002-2006; Wärtsilä Corporation, Corporate Controller, 2001-2002; Wärtsilä Finland Oy and Wärtsilä NSD Finland Oy, various managerial positions, 1997-2001

Positions of trust

Hanken School of Economics, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 11,796 shares



Atte Palomäki

Executive Vice President, Communications, Branding & Marketing since 2018. Born 1965, M.Sc. (Pol.). Joined the company in 2008.

Primary working experience

Wärtsilä Corporation, Executive Vice President, Communications and Branding, 2008-2018; Nordea Bank AB (publ.), Group Chief Press Officer, 2007-2008; Nordea Bank AB (publ.), Chief Communication Officer, Finland, 2005-2006; Kauppalehti, Senior Business Correspondent, 2002-2005; MTV3, Senior Economic Correspondent, 2000-2002; MTV3, News Producer, 1995-2000; MTV3, News Anchor, 1993-1995

Positions of trust

Finland Promotion Board, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 14,493 shares



Marco Wirén

President, Energy Business and Executive Vice President since 2018. Born 1966, M.Sc. (Econ.).
Joined the company in 2013.

Primary working experience

Wärtsilä Corporation, Executive Vice President and Chief Financial Officer, 2013-2018; SSAB, Executive Vice President and CFO, 2008-2013; SSAB, Vice President Business Control, 2007-2008; Eltel Networks, CFO and VP Business Development, 2002-2007; NCC, VP Business Development and Group Controller, 1995-2001

Positions of trust

Neste Corporation, Member of the Board

Holdings in Wärtsilä Corporation on 31.12.2019: 20,184 shares



Päivi Castrén acted as Executive Vice President, Human Resources until 24 October 2019.

Marco Ryan acted as Executive Vice President and Chief Digital Officer until 17 July 2019.

The President & CEO

The Board of Directors appoints a President for the Group, who is also its Chief Executive Officer. The President & CEO is in charge of the day-to-day management of the company and its administration in accordance with the company's Articles of Association, the Finnish Companies Act, and the instructions of the Board of Directors, and is assisted in this work by the Board of Management. The President & CEO's service terms and conditions are specified in writing in the service contract. The President & CEO of the company is Mr Jaakko Eskola.

Operations of the Board of Management

Wärtsilä's Board of Management comprises seven members: the President & CEO, the Chief Financial Officer, the Executive Vice Presidents heading the Wärtsilä Energy Business and Wärtsilä Marine Business, and the Executive Vice Presidents heading the Communications & Branding, the Corporate Relations & Legal Affairs, and the Human Resources functions. The members of the Board of Management are appointed by the company's Board of Directors, which also approves their remuneration and other terms of employment.

The Board of Management is chaired by the President & CEO. It considers strategic issues related to the Group and its businesses, as well as investments, product policy, and the Group's structure and corporate steering systems. It also supervises the company's operations.

The Chief Financial Officer's main areas of responsibility include group accounting and control, treasury (including project and customer financing), taxation, process development, corporate planning, and investor relations. The Executive Vice Presidents heading the businesses are each responsible for the sales volumes and profitability of their respective global businesses, deploying the capabilities of the Group's worldwide subsidiaries. The main areas of responsibility of the Executive Vice President, Corporate Relations & Legal are corporate relations and legal affairs, intellectual asset management and sustainability, as well as environmental and occupational health and safety, quality, and security, including cyber security. The Executive Vice President, Human Resources is responsible for people related processes. The main areas of responsibility of the Executive Vice President, Communications & Branding are external and internal communications, as well as branding and marketing. Information on the members of the Board of Management and their areas of responsibility and holdings can be found in the Board of Management CVs.

The Board of Management in 2019

The Board of Management met 13 times during 2019. The main issues addressed by the Board of Management included market development and business strategy, growth areas, the cost structure and profitability of the company, as well as developments related to the competitiveness and quality of products and services, and Wärtsilä's organisational structure. Digitalisation and security, particularly cybersecurity, were also high on the agenda, as were occupational health and safety and operational excellence. Furthermore, the Board of Management continuously addresses the development of the regulatory operating environment, order intake and production capacity, as well as supplier and other stakeholder relationships.

Corporate management

The company's Corporate Management includes, in addition to the Board of Management, the following directors responsible for corporate functions:

Juha Hiekkänen

Vice President, Financial Controlling
Born 1978, M.Sc. (Econ.)

Riitta Hovi

Deputy General Counsel, Corporate Legal Affairs
Born 1960, LL.M., MBA

Anu Hämäläinen

Vice President, Group Treasury and Financial Services & Support
Born 1965, M.Sc. (Econ.)

Sari Kolu

Director, Compliance
Born 1967, Master of Laws, Executive MBA

Jukka Kumpulainen

Vice President, Chief Information Officer (CIO)
Born 1968, M.Sc. (Eng.)

Vesa Riihimäki

Vice President, Quality
Born 1966, M.Sc. (Eng.)

Ritva Seppänen

Vice President, Brand
Born 1977, BA (Cultural studies)

Tom Unnérus

Vice President, Corporate Internal Audit
Born 1972, M.Sc. (Eng.)

Marko Vainikka

Director, Corporate Relations and Sustainability
Born 1970, M.Sc. (Eng.)

Natalia Valtasaari

Vice President, Investor Relations
Born 1984, M.Sc. (Econ.)

Business Management teams

Each business head is supported by a Business Management team. The Business Management teams are comprised of the heads of the business units and business lines, as well as business specific support function heads. They are responsible for executing the respective business strategies and ensuring that the Businesses' performance is in line with agreed targets.

Managing Directors of the subsidiaries

The Managing Directors of the Group's subsidiaries are responsible for ensuring that local resources are correctly dimensioned to meet the needs of the businesses, and that the subsidiary's personnel development needs are met. The Managing Directors are also responsible for ensuring that the subsidiary's operations fulfil the requirements stipulated in the Group processes, including the quality system, that these operations comply with the respective country's legal requirements and with good business practices, and that communication within the subsidiary is conducted according to the targets of the Group.

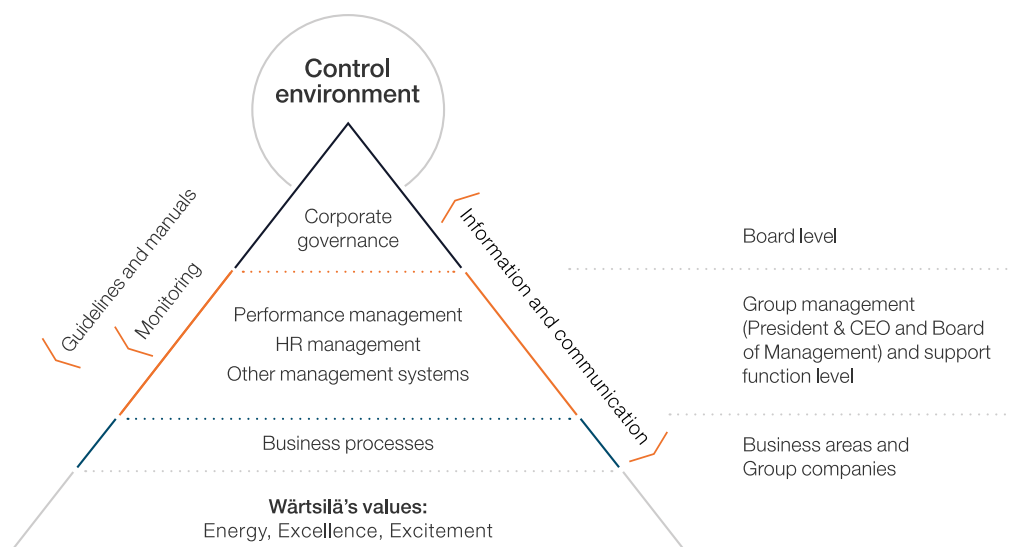
Internal control

Wärtsilä has defined its objectives for internal control according to the international COSO framework. Wärtsilä defines internal control as a process implemented by Wärtsilä's Board of Directors, the Management, the Boards of Directors of Group companies, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives.

Internal control covers all the policies, processes, procedures and organisational structures within Wärtsilä that help the management, and ultimately the Board, to ensure that Wärtsilä is achieving its objectives, that the business conduct is ethical and in compliance with all applicable laws and regulations, that the company's assets, including its brand, are safeguarded, and that its financial reporting is correct. Internal control is not a separate process or set of activities but is embedded in Wärtsilä's operations.

The system of internal control operates at all levels of Wärtsilä. Wärtsilä maintains and develops its internal control system with the ultimate aim of improving its business performance and, at the same time, complying with laws and regulations in countries where it operates.

Main components of Wärtsilä's internal control



Management systems

The Board of Management is responsible for developing and implementing Wärtsilä's management system, continuously improving its performance and ensuring that it operates effectively. The Wärtsilä management system covers all global processes and management procedures within Wärtsilä related to fulfilling customer requirements. The proper functioning of the management systems below ensures, for their part, the attainment of Wärtsilä's internal control objectives.

Performance management

Planning and target setting, an integral part of performance management in Wärtsilä, is a regular management activity and not part of Wärtsilä's internal control system. The establishment of objectives, however, is an important pre-requisite for internal control. Through the performance management process, financial and non-financial targets are set for Wärtsilä annually at the Group level. These Group level targets are then translated into targets for the Businesses, Group companies, and eventually for individuals.

The achievement of the annual targets is monitored through monthly management reporting. The performance of the Businesses and the achievement of the annual targets are reviewed on a monthly basis in the respective Management team meetings. The performance relating to the targets set by the Group and the different Businesses are reviewed on a monthly basis by the Board of Management. The respective management teams and the Board of Management also address the reliability of Wärtsilä's financial reporting.

Wärtsilä's financial reporting is carried out in a harmonised way in all major Group companies, using a single instance ERP system and a common chart of accounts. The International Financial Reporting Standards (IFRS) are applied throughout the entire Group. Wärtsilä's finance and control process is essential for the functioning of internal control. Adequate controls in the financial management and accounting processes are needed to ensure the reliability of financial reporting.

The Board of Directors regularly assesses the adequacy and effectiveness of Wärtsilä's internal controls and risk management. It is also responsible for ensuring that the internal control of accounting and financial administration is arranged appropriately. The Audit Committee of Wärtsilä's Board of Directors is responsible for overseeing the financial reporting process. The Group Business Control function, together with the Business Control functions in the Business areas, are responsible for notifying relevant levels of management regarding deviations from plans, analysing the underlying reasons and suggesting corrective actions. These functions support the Businesses in decision-making and analyses to ensure the attainment of financial targets. They maintain and develop the company's performance management processes, so that the management at different levels of the organisation is able to receive timely, reliable, and adequate information regarding the achievement of the organisation's objectives. In addition, they are responsible for developing the financial reporting processes and respective controls.

Legal and compliance management

Legal and compliance management practices and processes occupy a central role in Wärtsilä's system of internal control. Wärtsilä's policy is to act in accordance with the applicable laws and regulations in all countries where it operates.

Legal and compliance management acts predominantly in a proactive manner. Legal Affairs supports the President & CEO and the businesses in analysing and making decisions on matters involving contract policy, risk management, and regulatory considerations. Other key activities are to lead compliance management, and to strengthen and ensure the culture of appropriate conduct and behaviour, both internally and in external business transactions. Compliance management is based on the Code of Conduct and relevant group level policies and directives. Company-wide control mechanisms and processes are a part of the overall internal control system.

HR management

Human resource management practices and processes play an active role in Wärtsilä's internal control system. Wärtsilä's main human resource management processes with respect to internal control are compensation and

benefits, HR development, recruitment and resourcing management, individual performance management, as well as processes for collecting employee feedback. The HR function is responsible for maintaining and developing Wärtsilä's people related processes to enable effective internal control, also at the individual level.

Quality management

The quality of Wärtsilä's solutions, and thus quality management, is a top priority for Wärtsilä. Compliance with Wärtsilä's Quality Management System ISO 9001:2000 is compulsory throughout the Group, and compliance with the system is rigorously monitored.

Sustainability management

Wärtsilä is strongly committed to sustainability. Wärtsilä's purpose and values, together with a solid financial performance, form the basis for sustainable development within Wärtsilä. Wärtsilä applies global guiding principles, such as the Quality, Environmental, Health & Safety policy (QEHS policy) and the Code of Conduct, which, together with the company's values, ensure a harmonised way of working towards sustainable development. In addition to the aforementioned, the Corporate Manual includes other policies and directives, a description of the company's operating procedures, responsibilities, and the management system structure.

Wärtsilä's Board of Management has overall responsibility for sustainability performance. The Board of Management approves the guiding principles and reviews the content on a regular basis. The Board of Management defines sustainability targets and monitors performance against these set targets. Performance is reviewed in connection with management reviews at Wärtsilä's both Board of Management and Business Management Team levels.

The Board of Directors reviews major sustainability issues on an annual basis. In addition, the Board of Management identifies major critical concerns and, when necessary, communicates such concerns to the Board of Directors.

Wärtsilä's sustainability function is responsible for providing the necessary information to management, identifying development needs, as well as for coordinating sustainability programmes and preparing instructions. The function cooperates closely with the Businesses and the support functions, such as Human Resources, Legal Affairs, Compliance and Quality. It also collects and consolidates sustainability data from the subsidiaries.

Wärtsilä has clearly defined responsibilities, which are supported by necessary instructions and training. This training covers, for example, the Code of Conduct, anti-corruption, as well as environmental and occupational health and safety issues. Wärtsilä monitors its sustainability performance by utilising the information provided by various sustainability tools and activities, such as internal audits and compliance processes.

Risk management

Internal control within Wärtsilä is designed to support the company in achieving its targets. The risks related to the achievement of targets need to be identified and evaluated in order for them to be managed. Thus, the identification and assessment of risks is a pre-requisite for internal control within Wärtsilä. Wärtsilä's internal control mechanisms and procedures provide the management assurance that risk management actions are carried out as planned.

Wärtsilä has defined and implemented entity level and process level control activities, as well as information system controls. Control activities at different levels are needed to directly mitigate risks at the respective levels. Wärtsilä's risk management processes consist of Group-wide risk assessment and management processes, as well as project-specific risk assessment and project risk management. The Group-wide risk assessment process results in the creation of action plans for the identified and prioritised risks.

Each Business reports its main risks to Wärtsilä's Board of Management, which reviews the execution of the defined risk management action plans on a regular basis. Wärtsilä's Board of Directors is responsible for defining the Group's overall level of risk tolerance, and for ensuring that Wärtsilä has adequate tools and resources for managing risks. The Board reviews the risk profile regularly. The President & CEO, with the assistance of the Board of Management, is responsible for organising and ensuring risk management in Wärtsilä's operations. The Business management is responsible for defining action plans for managing the most important risks.

Wärtsilä's most important strategic, operational, and financial risks can be found in the [Risks and risk management](#) section of this report.

Information management

Information management plays a key role in Wärtsilä's internal control system. Information systems are critical for effective internal control as many of the control activities are programmed controls.

Values and the control environment

The foundation of Wärtsilä's internal control system lies on the company's values: Energy, Excellence and Excitement. Wärtsilä's values are reflected in its day-to-day relations with its suppliers, customers, and investors, as well as in internal guidelines, policies, manuals, processes, and practices. The control environment sets the tone for internal control within Wärtsilä and influences the control awareness of its people. It provides discipline and structure for all the other components of internal control. The elements of Wärtsilä's control environment are included in the corporate culture; the integrity, ethical values and competence of Wärtsilä's personnel; as well as in the attention and direction provided to the personnel by the Board of Directors of Wärtsilä. Wärtsilä's values and control environment provide Wärtsilä's Board of Directors and Management the basis for reasonable assurance regarding the achievement of the objectives of internal control. The President & CEO and the Board of Management define Wärtsilä's values and ethical principles, which are reflected in the Code of Conduct, and set an example for the corporate culture, which together create the basis for the control environment. They, together with the Business management, are responsible for communicating Wärtsilä's values to the organisation.

Business processes

The controls embedded in Wärtsilä's business processes play a key role in ensuring effective internal control within the company. Controls in the business processes help ensure the achievement of all the objectives of internal control within Wärtsilä, especially those related to the efficiency of operations and safeguarding the company's profitability and reputation. The Business management is responsible for ensuring that, within its area of responsibility, the defined Group level processes and controls are implemented and complied with. Where no Group level processes and controls exist, the Business management is responsible for ensuring that efficient Business level processes with adequate controls have been defined and implemented.

Guidelines and communication

Guidelines and manuals

The components of Wärtsilä's internal control system, including for example corporate governance, the management system, the performance management process, as well as business and other processes, are described in various guidelines and manuals. The essential Group level policies and guidelines are compiled in Wärtsilä's Corporate Manual. Wärtsilä's Group level Accounting Manual contains instructions and guidance on accounting and financial reporting to be applied in all Wärtsilä Group companies. The manual supports the achievement of objectives related to the reliability of Wärtsilä's financial reporting. Wärtsilä's Group level policies, and any changes to them, shall be approved by a member of the Board of Management. In addition to the Group level guidelines and manuals, the Businesses have issued related guidelines and instructions for their own, specific purposes. The Business level guidelines and manuals are aligned with, and do not contradict, the Group level guidelines and manuals.

Information and communication

An effective internal control system needs sufficient, timely and reliable information to enable the management to assess the achievement of the company's objectives. Both financial and non-financial information is needed,

relating to both internal and external events and activities. Employees can provide feedback to management and communicate suspected misconduct via a whistle blower channel that secures anonymous reporting, or directly to the Compliance, Legal Affairs, or Internal Audit function. All external communications are carried out in accordance with the Group Communications Policy.

Monitoring

Monitoring is a process that assesses the quality of Wärtsilä's system of internal control and its performance over time. Monitoring within Wärtsilä is performed both on an ongoing basis, and through separate evaluations that include internal, external, and quality audits.

The Business management is responsible for ensuring that all relevant laws and regulations are complied with in their respective responsibility areas. Wärtsilä's management, in turn, performs monitoring as part of its regular supervisory activities. The Audit Committee of the Board of Directors assesses and assures the adequacy and effectiveness of Wärtsilä's internal controls and risk management.

The Internal Audit function assists the Audit Committee in assessing and assuring the adequacy and effectiveness of Wärtsilä's internal controls and risk management by performing regular audits of Group legal entities, businesses, and support functions in accordance with its annual plan. Wärtsilä's external auditor and other assurance providers, such as quality auditors, conduct evaluations of Wärtsilä's internal controls. The Group Finance & Control function oversees the financial reporting processes and controls to ensure that they are being followed. It also monitors the correctness of all external and internal financial reporting. The Legal and Compliance function monitors adherence to the compliance policies of the Group. The external auditors verify the correctness of the external annual financial reports.

Audit

Internal

The Group's internal audit is handled by its Internal Audit unit, which reports to the Audit Committee and to the Chief Financial Officer. The purpose of the Internal Audit unit is to analyse the company's operations and processes, as well as the effectiveness and quality of its supervision mechanisms. The internal auditor also participates, if necessary, in audits undertaken in conjunction with acquisitions and carries out special tasks when needed. The Internal Audit function covers all the company's organisational levels and subsidiaries. An internal audit is undertaken in the subsidiaries and network companies at regular intervals, ranging from one to four years, based on a systematic evaluation.

The Internal Audit function prepares an annual plan, under which it independently audits different parts of the company. The annual plan is approved by the Audit Committee. The Internal Audit function is also empowered to carry out special audits. If required, the auditors also have the possibility to take direct contact with the Audit Committee or members of the Board of Directors.

External

The company has one auditor, which shall be an audit firm. The auditor is elected by the Annual General Meeting to audit the accounts for the ongoing financial year, and its duties cease at the close of the subsequent Annual General Meeting. The auditor is responsible for auditing the consolidated and parent company financial statements and accounting records, as well as the administration of the parent company.

Following the closing of the annual accounts, the external auditor submits a statutory auditor's report to the company's shareholders, and also regularly reports its findings to the Board of Directors' Audit Committee. The auditor, in addition to fulfilling general competency requirements, must comply with certain legal independence requirements guaranteeing the execution of an independent and reliable audit.

Auditor in 2019

The Annual General Meeting appointed the audit firm PricewaterhouseCoopers Oy (PwC) as Wärtsilä Corporation's auditor for the year 2019. The auditor-in-charge was Ms Merja Lindh. Auditing fees paid to PwC amounted to EUR 4.3 million in 2019. Consultancy fees unrelated to auditing duties totalled EUR 0.5 million. The latter fees concerned tax advisory and other services.

Related party transactions

Wärtsilä's related parties comprise the Board of Directors, the President & CEO, the Board of Management, as well as the associated companies and joint ventures. The Group Finance and Control function evaluates and monitors transactions concluded between the company and its related parties to ensure that any conflicts of interest are considered appropriately in Wärtsilä's decision-making process.

Insider management

Wärtsilä manages inside information and insiders in accordance with all applicable laws and regulations regarding insiders and insider trading.

The most important statutory provisions are contained in the Market Abuse Regulation (EU) 596/2014 ("MAR"). Wärtsilä also follows the Insider Guidelines of Nasdaq Helsinki Ltd. and Wärtsilä's Insider Policy.

The company draws up insider lists for projects containing inside information. Insiders are given written notification of their status as insiders and instructions on the obligations that apply to insiders.

The members of Wärtsilä's Board of Directors and Board of Management and certain other Wärtsilä personnel are prohibited from trading Wärtsilä's financial instruments during the 30 days prior to the publication of a financial statements bulletin or an interim report.

Wärtsilä publishes notifications on transactions conducted by persons discharging managerial responsibilities, and persons closely associated with them in accordance with the provisions of the MAR. The term "persons discharging managerial responsibilities" refers exclusively to the members of the Board of Directors and the Board of Management of Wärtsilä. These notifications are available on Wärtsilä's webpages.

Salary and remuneration report

Dear Shareholders,

This report sets out the Wärtsilä remuneration principles for the Board of Directors and Board of Management for 2019 and enumerates the same for three previous years. With this, we aim to increase transparency regarding Wärtsilä's remuneration practices and how they contribute to the business strategy and long-term interests.

Wärtsilä strives for high performance, and strong achievements are recognised and rewarded. Remuneration at Wärtsilä is guided by our 'Pay for Performance' principles. These principles are used to structure the reward approach throughout the organisation and designed to align employee rewards with the interests of the company and its shareholders.

The remuneration policy for the President & CEO, prepared and issued in accordance with the Finnish Corporate Governance Code 2020 and EU's Second Shareholder Rights Directive 'SHRD II', has been developed taking these principles into account.



We believe in a consistent approach to performance rewarding at Wärtsilä. The remuneration arrangements for the Board of Management, which also cascade down to other members of the senior management team, have operated broadly unchanged for some years.

The short-term incentive awards for the Board of Management have been consistently based on profitability (EBIT%) and cash flow targets over the past years. The expected performance criteria for profitability were set at highly ambitious levels also for 2019. Wärtsilä's financial performance in 2019 resulted in neither the profitability nor the cash flow target thresholds being met. Therefore, no short-term incentives were awarded for the year.

Wärtsilä's long-term incentive scheme is based on share price development. The 2017-2019 scheme performance period ended at the end of 2019. Due to share price performance during the performance period, there will be no pay-out for the scheme.

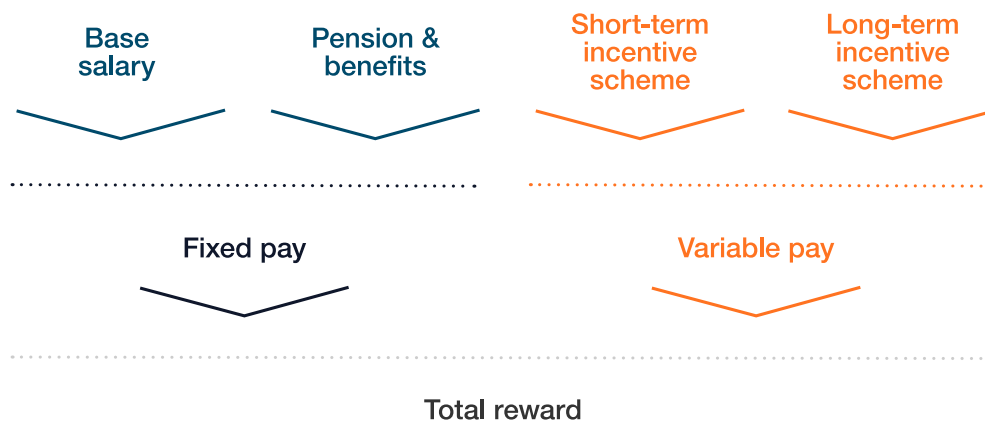
Going forward, performance-based rewarding principles remain the foundation of Wärtsilä remuneration practices. Both long-term and short-term incentive arrangements will continue in 2020 with ambitious targets.

Mikael Lilius
Chairman of the Remuneration Committee

Remuneration principles for the Board of Management

Wärtsilä's rewarding principles are designed to attract, retain, and motivate executives by providing compensation solutions that reward them for their performance in delivering business results.

The remuneration mix for the Board of Management consists of fixed and variable, performance related, pay. The objective is to have a good balance of rewarding elements. These comprise a fixed pay level guaranteed to be market competitive, supported by short- and long-term incentive schemes to drive company performance and to reward accordingly.



Fixed pay

The fixed remuneration paid to the President & CEO and to the other members of the Board of Management consists of a monthly base salary and fringe benefits. Base salaries are reviewed annually, taking into account the company's and the individual's performance and the market conditions.

The members of the Board of Management are provided private medical insurance and life insurance. They are also offered a company car benefit. Taking into consideration Wärtsilä's emphasis on environmental responsibility, hybrid or low emission cars are recommended.

The President & CEO and members of the Board of Management participate in company specific pension schemes, in addition to any statutory requirements. The nature of the supplementary pension schemes and retirement ages vary. They are generally based on the retirement scheme of the national social security system to which the person in question belongs and are either defined benefit or defined contribution based.

Variable pay

Short-term incentive schemes

The Group operates a bonus scheme, which is implemented globally and is designed to provide incentives for achievement of and reward for delivery of the short-term business plan. The bonus is based on the Group's financial targets, business specific targets, as well as agreed team and personal targets. Around 3,000 directors and managers are covered by this scheme.

For the President & CEO and the Board of Management, the payment is based on the achievement of the company's profitability and other financial targets for the financial year, as set by the Board of Directors. The short-term incentive opportunity is capped at 100% of the annual base salary for the President & CEO, and 65% of the annual base salary for the other members of the Board of Management. Bonuses are paid in cash shortly after year-end.

Wärtsilä's employees also participate in bonus or profit-based incentive schemes. These are applied in the majority

of countries where Wärtsilä operates, in accordance with each country's legislation. Alternatively, they take the form of local bonus or profit-sharing schemes. All in all, 80% of the company's employees are covered by the Group's bonus schemes and various other performance-related incentive schemes.

Long-term incentive scheme

Around 100 senior managers, including the President & CEO and the Board of Management, participate in Wärtsilä's long-term incentive scheme. The objective of the long-term incentive scheme is to align the interests of senior management with those of Wärtsilä's shareholders by creating a long-term equity-related interest for the participants. This promotes shareholder value creation and drives a long-term performance culture within Wärtsilä.

The long-term incentive scheme has a three-year performance period. Under the scheme, participants are awarded incentive rights. The value of an incentive right at the end of the performance period is based on share price development between the three-month period immediately preceding the performance period and the last three months of the performance period. The share price at the end of the period may include a value for some or all of the normal and any extraordinary dividends paid by Wärtsilä Corporation during the performance period.

Valuation of the incentive rights:

$$\left(\begin{array}{c} \text{Comparison} \\ \text{share price} \end{array} - \begin{array}{c} \text{Starting} \\ \text{share price} \end{array} \right) \times \begin{array}{c} \text{Number of} \\ \text{incentive rights} \end{array} = \begin{array}{c} \text{Value of} \\ \text{long-term} \\ \text{incentive} \end{array}$$

To ensure an appropriate level of reward, an upper limit is set for each award cycle, capping the maximum value for each incentive right. The incentive rights are paid out in cash or in shares. The schemes launched as of 2019 will be paid out in shares to promote shareholder value creation by strengthening the alignment of senior management interests with those of Wärtsilä's shareholders.

Share ownership policy

Each member of the Board of Management is expected to accumulate and, once achieved, maintain a share ownership in Wärtsilä that, at minimum, corresponds to the individual's annual gross base salary.

Governance

The Board of Directors determines the levels and underlying principles of the fixed pay as well as the incentive schemes for the President & CEO and other members of the Board of Management. The Board of Directors also decides on other possible long-term incentive schemes for senior management, unless they are by law determined by the Annual General Meeting. The Board of Management decides on bonus schemes for other directors and managers.

Remuneration of the Board of Management

Contractual terms for the President & CEO

The base salary of the President & CEO is EUR 893,582 p.a. He is entitled to participate in the short- and long-term incentive schemes according to the terms and conditions described above. The President & CEO is eligible to take retirement upon reaching the age of sixty-three (63). His pension scheme is determined according to a defined contribution based system. The retirement pension contribution is equivalent to 20% of the annual salary.

Remuneration paid to the President & CEO if dismissed by the company corresponds to 18 months' salary plus a six months' period of notice salary.

Board of Management's total remuneration in 2019

TEUR					
Board of Management	Salary and short-term benefits	Supplementary pension contributions	Short-term incentives ¹	Long-term incentives ²	Total
Jaakko Eskola, President & CEO	894 (862)	179 (170)	0 (239)	0 (1 696)	1 072 (2 967)
Pierpaolo Barbone, Deputy to the CEO (until 31.12.2018)	- (384)	- (107)	- (56)	- (848)	- (1 396)
Other members of the Board of Management ³	2 423 (2 263)	370 (368)	0 (480)	0 (4 452)	2 792 (7 563)

¹The figures of the comparison period relate to the annual bonus for 2017 performance, which was paid in 2018.

²The figures of the comparison period relate to the 2015-2017 long-term incentive cycle, which was paid in 2018.

³Remuneration for a period other than the financial year: Marco Ryan 1.1.-17.7.2019, Päivi Castrén 1.1.-24.10.2019, Alid Dettke 1.11.-31.12.2020

Short-term incentive schemes

The Board of Management's performance target structure for short-term incentives is described in the table below. A sliding scale of targets is set for each measure.

President & CEO	Group EBIT% (2/3)	Group cash flow from operating activities (1/3)
Business roles	Group EBIT% (1/3) Respective business targets (1/3)	Group cash flow from operating activities (1/3)
Other Corporate roles	Group EBIT% (2/3)	Group cash flow from operating activities (1/3)

Short-term incentives for 2019 performance

The above performance measures and weightings apply to the annual bonus for 2019 performance. Performance against the group targets was as follows:

Measure	Performance outcome
Group EBIT%	Below threshold
Group cash flow from operating activities	Below threshold

As the performance outcomes were below the target thresholds, no bonuses were paid out.

Short-term incentives for 2020 performance

There are no changes proposed to the short-term incentive plan for 2020. The performance measures, weightings, and maximum limits will be the same as those applied for 2019.

Historical development of performance outcome

The performance measures and weightings have remained consistent during the past years. Actual performance against the group targets during 2016-2018 is presented below.

Measure	Performance outcome		
	2016	2017	2018
Group EBIT%	Between threshold and target	Between threshold and target	Below threshold
Group cash flow from operating activities	Between target and maximum	Between target and maximum	Below threshold
The bonus paid out on average (of the maximum)	President & CEO: 50% Board of Management: 50%	President & CEO: 31% Board of Management: 35%	President & CEO: 0% Board of Management: 0%

Long-term incentive scheme

The table below sets out details of the realised and outstanding awards under Wärtsilä's long-term incentive scheme. The scheme applies to Wärtsilä's senior management, consisting of approximately 100 directors, including the Board of Management. The value delivered is based on share price development during the three-year performance period. The values reflect the share split effective as of March 2018.

Performance period	2016-2018	2017-2019	2018-2020	2019-2021
Number of incentive rights granted (on 31.12.2019)	4 857 000	4 332 000	3 609 000	5 108 000
Starting share price, EUR	15.82	16.19	22.58	16.76
Measurement period for comparison share price	Q4 2018 + 100% of dividends paid	Q4 2019 + 100% of dividends paid	Q4 2020 + 100% of dividends paid	Q4 2021 + 100% of dividends paid
Maximum value per incentive right, EUR	4.61	6.07	8.47	6.56
Final comparison share price, EUR	15.79	9.57	-	-
Final value per incentive right, EUR	0.00	0.00	-	-
Scheme payment date	February 2019	February 2020	February 2021	February 2022

The share issue without payment (share split) approved by Wärtsilä Corporation's Annual General Meeting on 8 March 2018 increased the total number of Wärtsilä shares to 591 723 390. The figures in the above table have been restated accordingly.

In January 2020, the Board of Directors decided on the long-term incentive scheme for 2020-2022. The scheme comprises 8,788,000 incentive rights. The reward is paid in shares. It is based on the share price development during a three-year period, with a starting share price of EUR 11.01. The reward cannot exceed EUR 4.31 per incentive right, and it takes into account 100% of dividends paid out during the performance period and reinvested in the company's shares. The scheme will be due for payment in February 2023.

Share ownership

Board of Management's share ownership in Wärtsilä on 31 December 2019

Board of Management	No. of shares
Jaakko Eskola	41 739
Change in 2019	0
Arjen Berends	0
Change in 2019	0
Aliid Dettke	0
Change in 2019	0
Kari Hietanen	15 633
Change in 2019	0
Roger Holm	11 796
Change in 2019	0
Atte Palomäki	14 493
Change in 2019	0
Marco Wirén	20 184
Change in 2019	0

Evaluation

The Board of Directors monitors the Group's short- and long-term incentive schemes and evaluates the achievement of the targets on which they are based. The incentive schemes for 2019 were found to be well balanced and in accordance with market practices. The Board of Directors was satisfied that the pay-out outcome was appropriate given the company's performance.

Remuneration of the Board of Directors

The Annual General Meeting annually decides on the fees to be paid to the members of the Board of Directors for one term of office at a time.

The Annual General Meeting approved the following fees to the members of the Board of Directors for 2019:

- to the ordinary members EUR 70,000/year
- to the deputy chairman EUR 105,000/year
- to the chairman EUR 140,000/year

Approximately 40% of the annual fee is paid in Wärtsilä shares. In addition, each member will be paid EUR 750 per board meeting attended, the chairman's meeting fee being double this amount. Furthermore, the chairman of the Audit Committee will receive a fixed fee of EUR 20,000 and each member of the Committee a fixed fee of EUR 10,000 for the term; the chairman of the Remuneration Committee will receive a fixed fee of EUR 10,000 and each member of the Committee a fixed fee of EUR 5,000 for the term; and the chairman of the Nomination Committee will receive a fixed fee of EUR 8,000 and each member of the Committee a fixed fee of EUR 4,000 for the term. The members of Wärtsilä's Board of Directors were paid altogether EUR 718 thousand for the financial period that ended on 31 December 2019. The Board's members were not covered by the company's incentive schemes.

Fees paid to the Board of Directors

TEUR	Attendance fees		Yearly fees		Total	
	2019	2018	2019	2018	2019	2018
Board of Directors						
Mikael Lilius, Chairman	32	35	140	140	172	175
Tom Johnstone, Deputy Chairman	12	14	105	105	117	119
Maarit Aarni-Sirviö	22	26	70	70	92	96
Kaj-Gustaf Bergh	11	12	70	70	81	82
Karin Falk	7	8	70	70	77	78
Johan Forssell	11	12	70	70	81	82
Risto Murto	21	24	70	70	91	94
Markus Rauramo	27	33	70	70	97	103

Fees paid in Wärtsilä shares in 2019

Board of Directors	No. of shares
Mikael Lilius, Chairman	4 132
Tom Johnstone, Deputy Chairman	3 099
Maarit Aarni-Sirviö	2 066
Kaj-Gustaf Bergh	2 066
Karin Falk	2 066
Johan Forssell	2 066
Risto Murto	2 066
Markus Rauramo	2 066

Board of Directors' share ownership in Wärtsilä on 31 December 2019

Board of Directors	No. of shares
Mikael Lilius, Chairman	65 392
Change in 2019	4 132
Tom Johnstone, Deputy Chairman	11 693
Change in 2019	3 099
Maarit Aarni-Sirviö	34 503
Change in 2019	2 066
Kaj-Gustaf Bergh	33 769
Change in 2019	3 666
Karin Falk	5 073
Change in 2019	2 066
Johan Forssell	5 073
Change in 2019	2 066
Risto Murto	11 013
Change in 2019	2 066
Markus Rauramo	18 675
Change in 2019	2 066

Risks and risk management

The aim and principles of risk management

Wärtsilä, like any other company, is exposed to various risks through the normal course of its activities. No business can be conducted without accepting a certain level of risk, and any expected gains from business activities are to be assessed against the involved risks.

The purpose of risk management is to ensure that Wärtsilä is able to effectively execute its strategies and reach its targets, in the short-term as well as over the long run. The key is to identify those risks that have the potential to restrain the company from reaching its goals and to determine whether such risks are at an acceptable level.

By definition, risk is the effect of uncertainty on objectives. An effect is a deviation from the expected, positive or negative; in other words, either a threat or an opportunity. Actions need to be taken to avoid, mitigate, transfer, or monitor identified risks, or to capture and utilise the opportunities. Wärtsilä's structured risk management process offers a set of reactive, proactive, protective, and preventive tools that are used not only to protect it against threats, but also to turn some of the risks into opportunities.

Risks can only be managed if they are identified and understood in advance, if risk treatment plans for managing them are made, and if a process of continuous follow-up is in place for the related controls. Therefore, risk management is a central part of Wärtsilä's strategic and operational management.

Risk management at Wärtsilä is a continuous process of analysing and managing all the opportunities and threats faced by the company in its efforts to achieve its goals and to ensure the continuity of the business.

The basis for risk management is the lifecycle quality of Wärtsilä's operations and products and the continuous, systematic loss prevention efforts at all levels of the Group, not only as an integrated part of management systems, but as part of every employee's daily work. In the long-term, this is the only means for reducing overall risk related costs.

The Businesses are responsible for the risks and rewards, and thus managing risks is the responsibility of Business Management teams and individual managers. The risk management process at Wärtsilä is embedded in Wärtsilä's culture and practices and has been tailored to fit the business functions and processes of the organisation. The process can be seen as a continuous loop consisting of the repetitive steps of context establishment, risk assessment, risk treatment, communication and consultation, and finally monitoring and review.

Risk management guidelines and principles



Implementation

The Board of Directors and the Board of Management decide and set the guidelines on strategic matters. The Businesses are responsible for achieving their set strategic goals and for mitigating and managing their risks. The Corporate Risk Management function is part of Group Treasury, which reports to the Chief Financial Officer. The function is responsible for the risk reporting process and for conducting risk assessments with the Businesses and their underlying organisations.

Risk mitigation actions are decided in the normal course of business. At its meetings, the Board of Management conducts annual management reviews for each Business and certain main support functions, addressing also their risks and risk mitigation.

Risk reporting



Risk categories

The relevant risks for Wärtsilä have been classified under four categories: strategic, operational, hazard, and financial risks. The potential loss expectancy is the highest with strategic and operational risks and the lowest with hazard and financial risks. The risks in most of the categories can have both upside and downside impacts. In this regard, hazard risks are an exception, since for them only a negative effect is possible.

Risk radars are used to map the main risks within the risk categories. The Business-specific radars are consolidated into a single Group Risk Radar, which is presented to the Board of Directors and to the Audit Committee once a year. The purpose is to facilitate the discussion on risks and to give a quick overview of where priorities should lie in terms of risk management.

Risk radar



Strategic risks

Strategic risk assessment is part of the strategic planning process within the Group. At Wärtsilä, a risk is defined as strategic if it has the potential for imposing a long-term impact on the business.

Business environment risks

Business cycles in the global economy, and in customer industries, influence the demand for Wärtsilä's products, as well as its financial condition and operating result. The flexible manufacturing model based on capacity outsourcing, together with exposure to two separate end markets with different demand drivers and a large share of sales deriving from service activities, provides Wärtsilä with a certain level of stability in a cyclical market. Important economic matters that indirectly affect Wärtsilä, its clients, and suppliers include inter alia, the liquidity and solvency of financial institutions, and thus not only their capability but also their willingness to extend credit, the counter cyclical stimulus programmes adopted by governments – especially in the power and infrastructure sectors – the activities of multilateral institutions, such as the International Finance Corporation, the availability of export credit schemes and guarantees, and other such factors. Wärtsilä's order book gives the company time to adapt to changes in market conditions.

The implementation of more stringent environmental regulations is important for Wärtsilä's future growth potential, since the company's comprehensive portfolio of products and services allows customers to meet such stricter requirements. A delay in legislation implementation may present a risk to Wärtsilä. Possible changes in the legislation timeline and scope are, therefore, actively monitored.

Market and customer risks

In the energy markets, there is a global shift towards more sustainable energy sources. The penetration of renewables is increasing, and energy storage is emerging as a technology that changes the paradigm of power systems. Wärtsilä is strongly participating in these new market developments. Rapid deployment of new technologies can create new risks related to managing complex hybrid installations in an optimal way. Wärtsilä's Greensmith Energy Management System (GEMS) is a proven, efficient, and stable software for controlling and operating complex systems, which gives Wärtsilä a competitive advantage in managing the related risks.

The rapidly changing market environment has impacted the speed of customer decision-making, as the changes require updating their future portfolio strategies. Electricity demand is increasing, but fragile economic growth represents a risk for demand development. Geopolitical tensions and the implications of trade barriers create notable challenges to the demand environment. Significant currency fluctuations can result in investment decisions being postponed in certain countries. Low oil prices have a similar impact in the oil and gas producing countries. Orders are received from all geographic regions, thus limiting the risk of dependence on one particular market. Wärtsilä's three customer segments, namely industrial customers, IPPs (independent power producers), and utilities, are also all represented in the order intake.

In the shipbuilding industry, Wärtsilä is well represented in all the major markets and is active in all the main vessel segments. This, along with the company's large product portfolio and global service network providing lifecycle support to the growing installed base of over 50,000 vessels and 10,000 customers, mitigates both geographical and single customer risks.

Trade tensions, geopolitical uncertainty, and a possible slowdown in the global economy are affecting investment decisions in the shipping industry. While slow economic growth is also a risk to demand development in the service markets, the capital-intensive newbuilding market is more sensitive to changes in the economic outlook. Changes in the financial landscape have resulted in challenges to securing financing for newbuilds. Consolidation among the major shipyards is a potential risk that might result in lower capture rates in equipment sales due to changed relationships with the shipyards.

The importance of fuel efficiency and environmental regulations are clearly visible, driving interest in environmental solutions, gas as a marine fuel, as well as electric and hybrid solutions. While concerns related to climate change require increasing efforts to reduce emissions within the shipping industry, uncertainties concerning developments in the regulatory environment may slow newbuild activity. Uncertainty concerning bunker fuel pricing and availability has delayed decision-making among customers for scrubber technology investments, despite supportive initial price indications. The deliveries of exhaust gas cleaning solutions, on the other hand, increased significantly, creating a recognised risk, namely to manage and deliver the demanded orders on time and with the required quality. The shortage of available shipyard capacity to install and commission scrubber retrofits is a risk in the form of delays in project deliveries.

Digitalisation has become increasingly important for both the shipping and energy industries' business and operating models. In accordance with its Smart Marine strategy, Wärtsilä continued to work towards the digital transformation of future shipping markets with the development of a digital strategy and by introducing new market offerings. These include initiatives such as Operim, which enables improvements in operational performance by means of continuous monitoring and the reporting of key performance indicators through enhanced use of data. In the power generation markets, energy management systems gain importance as renewable penetration grows. Wärtsilä's advanced energy management software platform GEMS enables customers to remotely monitor individual systems or entire fleets, identifying and diagnosing equipment issues in real time, and extending system lifetime.

Competitive situation and price risks

In 2019, competition on those markets where Wärtsilä operates has increased. In large gas-fired projects, Wärtsilä faces competition from gas turbine manufacturers, such as GE and Siemens. In smaller gas power plant projects, and in the liquid fuel power plant market, the competitors are mainly other combustion engine suppliers, such as MAN Energy Solutions, INNIO (previously GE Jenbacher), Caterpillar (MAK), and Rolls-Royce. In Wärtsilä's addressable market, i.e. the market for installations of up to 500 MW, orders for natural gas and liquid fuel power

plants totalled 11.6 GW during the twelve-month period ending in September. Wärtsilä's market share was 17%. Wärtsilä's success in the market can be attributed to its flexible power generation solution, which can be used in a broad range of different applications and power plant sizes. Price pressure resulting from the prevailing competitive environment remains a risk.

When it comes to servicing the energy markets, in line with the value-based offering concept, Wärtsilä continues to develop and offer a range of lifecycle services and asset management solutions aimed at optimising its customers' power plants over their lifecycle. Such long-term service agreements not only ensure the power plant's performance and protect the customer's investment but bring stability to Wärtsilä as a service provider. Competition for energy services is fragmented, consisting mainly of individual local players.

In the marine equipment markets, the competitive landscape became more consolidated in 2019 as a result of Kongsberg's acquisition of Rolls-Royce's Commercial Marine unit. The most significant competitors in the main engine markets are MAN Energy Solutions and Caterpillar (MAK). Wärtsilä has a strong position in medium-speed main engines with a 45% market share in 2019. In auxiliary engines, Wärtsilä's market share was 15%. In propulsion equipment, the competition is more fragmented and varies by product category. One of the main competitors for these products is Kongsberg. In environmental solutions, as well as in gas products, the markets are very fragmented. Alfa Laval and Evac are two of the main competitors in environmental solutions, while in the electrical and automation segment Wärtsilä faces competition from companies such as Kongsberg, GE, and Siemens. In marine services, Wärtsilä has no direct competitors capable of offering a similar portfolio of services from a single source.

Price competition has intensified in the marine newbuild markets, partly due to lower vessel contracting volumes. The strategic move of becoming a systems integrator with automation and ship design capability has proven to be an important differentiator in the competition for new projects with larger and more value-adding scopes. The concept of selling packaged solutions reduces price volatility.

Political and legislative risks

Wärtsilä is present in over 200 locations in more than 80 countries and has delivered power plants to 180 countries. Political developments and changes in legislation can have a significant impact on Wärtsilä's business. Wärtsilä actively monitors political and legal developments in its markets and engages in a dialogue with various official bodies on projects of importance to its operations and intellectual property rights. Much of this engagement takes place through interest groups and trade organisations. The company monitors political and legislative changes at both the corporate and subsidiary levels.

Trade related tensions have increased globally in 2019, and the uncertainty related to trade relations is now a more noteworthy risk on the marketplace than before. The impact on Wärtsilä has materialized mainly in the form of delayed contract decisions and reduced demand for new vessels caused by the expected reduction in trade volumes between the USA and China.

In recent years, there has been increased regulatory activity by different governments worldwide, which has led to the need for emphasising due internal processes to ensure compliance. As an example, the ongoing and changing trade sanctions were complied with and closely monitored during 2019. This continues to require internal efforts to ensure that adequate procedures are in place.

Climate change and sustainability risks

Wärtsilä has assessed its sustainability risks, including climate change risks, in both its strategic and operative risk assessments. The potential business risks related to sustainability, climate change, and Wärtsilä's products are in the areas of regulatory emission restrictions and changes in attitudes to using combustion engines and fossil fuels. The risks in environmental legislation changes are related to the complexity of the overall field of different emissions, the balance between commercially available fuels and their resulting emissions, available abatement technologies, the impact on overall energy efficiency, and the resulting financial feasibility of the various alternative ways to meet regulatory demands.

Being at the forefront of technological developments mitigates sustainability risks and gives Wärtsilä many opportunities arising from tightening environmental regulations. Over the years, Wärtsilä has worked continuously to improve the efficiency of its products, while at the same time seeking ways to reduce emissions. The fuel flexibility of Wärtsilä's products enables the utilisation of various fuels, including gas and those from renewable sources, while their operational flexibility enables the installation of large capacity-based wind and solar energy systems without hampering the reliability of the electricity grid. Wärtsilä has entered both the hybrid energy and energy storage businesses, representing a further step in providing customers with sustainable innovations that reduce carbon emissions. Wärtsilä's technology also enables energy to be generated with a minimum use of water. The lack of fresh water is expected to be one of the major challenges facing the world in the future. In shipping, Wärtsilä can reduce the carbon footprint of vessels through optimised ship design, optimal propulsion solutions, and voyage management. Environmental solutions offer, among others, alternative technologies to reduce sulphur oxide (SOx) emissions and to treat waste and ballast water. Wärtsilä offers several retrofit solutions for the after-sales market to reduce emissions and to increase fuel efficiency.

For more information, please see the [Sustainability section](#) in this annual report.

Technology risks

Wärtsilä aims to increase the competitiveness of its solutions and to manage technology risks and opportunities through solid R&D efforts and innovation. The development of new products is based on the strategic view of optimising lifecycle value for customers and on reducing the lifecycle impact on the environment of developed technologies and products. This is achieved with modern and sustainable power solutions through, for example, gas solutions, environmental technologies, ship design, as well as electrical and automation solutions. As a technology leader, Wärtsilä places strong emphasis on emissions control, enhancing efficiency and maintaining the cost competitiveness of its products. Connectivity and the utilisation of data to further optimise efficiency and unlock new customer value is becoming an increasingly important element of Wärtsilä's development roadmap.

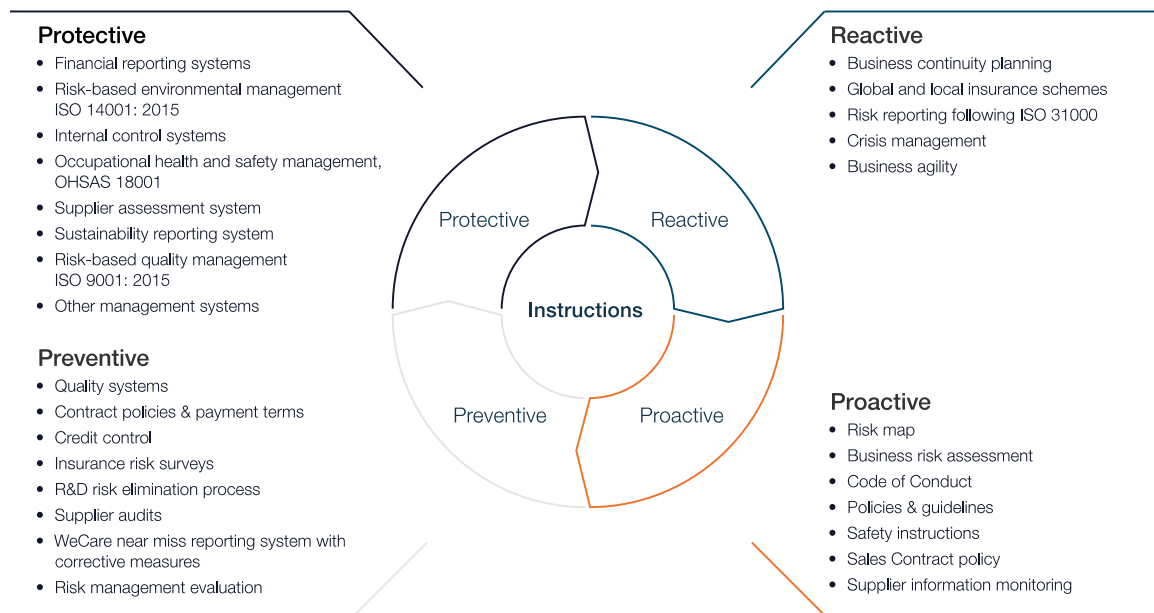
Operations, risks and opportunities



Operational risks

Operational risk management is part of the daily work of the Businesses. Opportunities and risks are identified, assessed, and managed on a daily basis and reported to, and managed by, the appropriate management level. The status of these opportunities and threats is reviewed on a periodic basis, and appropriate further actions are then taken.

Risk management process



Manufacturing risk

Wärtsilä constantly analyses its manufacturing footprint and capacity costs, including costs related to the supply chain. Risk assessments have been made for all the main delivery centres, and significant safety, environmental impact, and risk mitigation investments have been completed. Risk identification, assessment, and mitigation actions are executed on a regular basis as part of operational management. Management systems for quality, environmental, occupational health and safety, and other systems are utilised to improve productivity, while safety and business continuity plans have been implemented for the key delivery centres.

Supplier and sub-contractor risk

Wärtsilä's supply management is integrated within the business lines. The aim is to work in partnership with the supplier base to create value for Wärtsilä's customers by ensuring quality, on-time delivery, and the lowest total cost. In order to ensure coordinated interfaces and synergies for the cross-divisional supplier base, a category management structure has been in place since 2007. Indirect Purchasing remains a centralised function responsible for managing strategic sourcing activities for indirect materials and services in all businesses and support functions.

The supply management units have a unified process for managing and controlling Wärtsilä's supplier network and for verifying that the suppliers' performance meets Wärtsilä's expectations. Supplier performance is, therefore, continuously measured. A key activity in managing business continuity planning is the regular assessment of business interruption risks, which is carried out in cooperation with the company's suppliers. Several supplier risk audits have been completed jointly with the insurer as one means of mitigating risk. These audits are now one of the regular tasks for the supply category managers and the Risk Management function.

Wärtsilä has developed its supply related activities by creating close collaboration and long-term relationships with its main suppliers. This cooperation creates a common view towards values and goals, which in turn supports the management of Wärtsilä's strategic risks. To further mitigate supplier and sub-contractor risks, a comprehensive follow-up of suppliers' credit worthiness has been established. Supplier related risks for key components are mitigated through dual- or multi-sourcing.

Wärtsilä uses an online solution for supply chain risk identification, assessment, and monitoring. More than 2,000 suppliers have been, and continue to be, followed through the system. The solution includes a selection of key criteria defined by Wärtsilä, against which the situation of each supplier is continuously measured. Any

discrepancies are automatically reported to the responsible category manager, who is responsible for ensuring that the necessary steps, if any, are taken to mitigate the risk. A supply chain cyber security assessment process was introduced in 2019, with the focus of covering a variety of suppliers, from large key suppliers to smaller low-spend suppliers. Until now, only a limited number of suppliers has undergone this assessment, with further assessments to be conducted during the coming year.

Lifecycle quality of products and product liability risk

Wärtsilä's quality strategy focuses on preventive and proactive actions to deliver increased customer satisfaction, shorter lead times, and a reduced number of claims. To realise Wärtsilä's quality vision, the strategy has been focused towards effective project risk management, strengthened awareness, and ownership supported by a streamlined product improvement process.

The launching of new products always involves risks. In the R&D process, several risk management techniques are applied, including the risk elimination tool FMEA (Failure Modes and Effects Analysis) and in-house validation testing. Wärtsilä seeks to control quality risks by monitoring the incoming quality of the supply chain and by designing and manufacturing its products with all due care. A non-destructive robotic ultrasonic data analysis procedure, which replaces manual scanning of critical components, enhances the probability of detecting imperfections in components with a complex geometry.

Wärtsilä applies a GATE model in order to control the product development process. Initially, only a limited release of new products is allowed, and via the gate approach, full release authority is given to the sales organisations only after testing and further validation has been completed.

Wärtsilä seeks to control its manufacturing quality risks by applying several assurance and quality control principles. The level of quality assurance and control requirements are determined based on component criticality, and they are applied throughout the delivery chain.

Requirement management is used to assess components systematically, enabling the allocation of resources and efforts according to the component criticality. The ranking criteria indicates the consequence if a component fails. The objective is to improve quality proactively within product development, supply management, and the entire delivery process from order intake to commissioning.

Nonconformity management at Wärtsilä focuses on developing and improving operations by registering and handling detected nonconformities. This ensures that customers receive products and services according to the agreed scope and specifications. Efficient handling, monitoring, and reviewing of nonconformities is crucial for proper risk management and mitigation.

Product improvement management (issue resolution) projects are prioritised based on risk and importance. This happens when Wärtsilä identifies a technical issue according to claim statistics, customer feedback, or internal analysis, and the case fulfils the risk categorisation for a non-isolated case.

The business lines are responsible for supporting customers in all warranty issues. This offers a feedback loop from the field to production and R&D, while taking care of the customers' installations throughout their lifecycle. The company makes warranty provisions to cover any costs that may arise after product delivery. The company's product liability insurance covers unexpected damages.

Wärtsilä seeks to continuously improve the quality of its products and services through the adoption of best industry practices and good governance. Management at all levels is responsible for the quality of output from their organisations and is accountable for ensuring that appropriate review and feedback mechanisms are in place. The centralised Wärtsilä Quality function is responsible for coordinating quality activities across the businesses and for ensuring that senior governance mechanisms are in place and effective. Wärtsilä's business level management systems are certified in accordance with the 2015 standard revisions (ISO 9001:2015 and ISO 14001:2015), with an emphasis on a risk-based approach and proactive risk and opportunity management. Migration to the new 45001:2018 standard version will be completed during 2020.

Contractual risks

Wärtsilä's equipment business includes projects and deliveries of various sizes. The most substantial orders concern power plants delivered on a complete EPC (engineering, procurement, and construction) basis and major marine and energy delivery contracts requiring extensive coordination, efficient risk management, and the integration of contracted systems and solutions.

In 2019, Wärtsilä's operating result was weakened by unforeseen cost overruns in a handful of complex marine and energy projects. A review of the projects in question revealed incorrect underlying assumptions in cost estimates, insufficient risk identification, and supplier related challenges. Corrective actions have been taken to prevent similar issues from occurring in the future. These include changes to the organisational structure, processes, and technical assessment controls. Furthermore, supplier approval has been tightened, new tools introduced, and training enhanced. With these measures, Wärtsilä aims to improve the quality of its project execution activities and to ensure better upfront identification of risks and opportunities.

The risk of product liability claims is reduced through the lifecycle quality of the products and work, starting from the initial design, through all stages of the production process, to the eventual field service activities, and the use of standard sales contracts, including the establishment of a contract review process.

In activities related to lifecycle support, contractual risk is mainly related to long-term agreements and service projects, such as engine upgrades, retrofits, or modifications. In large scale performance-based agreements, the recognised contractual risk is related to the ability to manage and maintain assets as planned.

Risk of non-compliance, corruption and fraud

Wärtsilä complies with the law and its own internal policies and procedures everywhere the company does business. Wärtsilä's Code of Conduct is the key guideline for all employees globally. Wärtsilä is committed to high ethical standards and integrity, and to preventing corruption and violations of the principles set forth in the Code of Conduct, as well as in Wärtsilä's Anti-Corruption and Compliance Reporting policies. Compliance processes are embedded in all of the Businesses, and the responsibility for compliance and awareness of ethics and integrity is that of all Wärtsilä employees. Wärtsilä is fully committed to compliance with anti-corruption laws and statutes. Wärtsilä's Anti-Corruption Policy absolutely forbids any kind of corruption and bribery, and the top management of the company has a zero-tolerance policy regarding corruption and fraud.

The Compliance function promotes Group-wide compliance and continuously strives to raise awareness of the risk of corruption and bribery and other misconduct. It is primarily responsible for creating and enforcing Group level policies and procedures, training programmes, misconduct incident reporting, internal compliance investigations, as well as for managing the consequences of misconduct, and reporting. The continuous development of Wärtsilä's compliance programme and nurturing the company's commendable ethical culture are pivotal tasks for the Compliance function. Moreover, Compliance supports and cooperates with the Businesses and other corporate functions in their risk management efforts. Wärtsilä has a Group-wide programme for strengthening its Code of Conduct, which aims to increase the employees' understanding as to how the Code of Conduct impacts everyday activities at all Wärtsilä locations, wherever Wärtsilä operates.

While Wärtsilä is aware of the risk of being subject to fraud by external business parties, and that the risk of corruption and fraud is heightened in many markets where the company operates, Wärtsilä maintains its highly ethical practices at all times. Full compliance with its stringent anti-corruption regime, including policies to prevent the corruption and bribery risk of third parties, is demanded by Wärtsilä.

Cyber and information security related risks

Wärtsilä has an experienced and professional internal organisation dedicated to the effective management of cyber security risks across Wärtsilä's portfolio. This organisation, in cooperation with Wärtsilä's Business Management teams, delivers cyber security operational support. It also provides the associated governance, risk management, and assurance required to support and enable safe and secure internal operations, while ensuring that the Businesses' customer offerings are compliant with the relevant current and future regulations and applicable standards.

The Wärtsilä cyber security governance model aligns closely with overall business risk management and supports the Businesses in identifying and prioritising their respective cyber security risks. The cyber security team works seamlessly with physical security colleagues across Wärtsilä to ensure the effective and coordinated delivery of holistic security solutions for both the cyber and physical domains.

Information security risks related to Wärtsilä's internal operations are continually identified, analysed, and evaluated. The attendant mitigation activities are executed across Wärtsilä's networks, endpoints, systems, and services. The 24/7 Wärtsilä Security Operations Centre continually monitors the perimeter to internal systems and closely observes the external threat exposure level, whilst providing a coordinated response to identified information security incidents, as and when they may occur.

The effective mitigation of risks associated with cyber security hygiene throughout Wärtsilä are continually and progressively reinforced through coordinated and complementary cyber security training, awareness initiatives, and extensive communications. This involves all Wärtsilä corporate functions and the Businesses.

Wärtsilä has identified the need to mitigate the cyber security risks associated with its supply chain. The company is addressing this need through a comprehensive and risk-based approach, involving both increased opportunities for remote and objective assessment of some suppliers, as well as increased levels of communication with others.

Recognising the ever-present and increasing cyber security risks to customers in the maritime industry, Wärtsilä has developed, in close partnership with a leading cyber security provider, a world-leading maritime cyber emergency response capability based in Singapore. This service puts thought leadership into tangible action and places Wärtsilä at the forefront in mitigating the cyber security risks to its customers.

In 2019, Wärtsilä became one of the founding members of the Operational Technology Cyber Security Alliance (OTCSA) intended to provide a technical and organisational framework for safe and secure operational technology. This new alliance aims to bridge dangerous gaps in security for operational technology and industrial control systems. As cyber criminals are seen to increasingly target operational technology used to control physical equipment like those found in factories, power plants, ships, or ports, finding ways to collaborate with the ecosystem of suppliers, customers, and other partners, even competitors, is the best way to manage the continuously evolving threat landscape.

Privacy and data protection risks

EU's General Data Protection Regulation (GDPR) sets out the general framework for Wärtsilä's efforts in data protection. Wärtsilä has global privacy notices to inform its personnel, customers, vendors, other stakeholders, and interest groups about the processing of personal data. Data protection implementation is supported by and aligned with group-wide privacy policies and processes.

Mandatory GDPR training is in place for employees processing personal data. Tailored data protection training is provided also for specific employee groups, such as management teams.

Wärtsilä's applies a risk-based approach to privacy and data protection and continues to take further actions to strengthen privacy and data protection implementation in order to mitigate risks.

Commodity price risk

Oil

The direct effect of oil price changes on Wärtsilä's production is limited, with their impact being mainly demand related. Higher oil prices represent a risk for global economic growth and increase operating costs, especially in the shipping markets. However, they also stimulate investments in exploration and production for oil and gas, both on land and offshore. Furthermore, high oil prices increase investments in gas carriers, gas-based power plants and, increasingly, also in gas-fuelled vessels. Low oil prices can delay investment decisions in oil producing countries and regions, as well as in the offshore industry. Wärtsilä is a global company involved in different shipping and power plant segments where oil price changes can have an opposing impact on demand drivers. This position is further diversified by the increasing importance of natural gas in Wärtsilä's business.

Metals

Metal prices have an indirect effect on the component cost of Wärtsilä's products. Some key components are sourced with long-term contracts, and raw material price volatility is, therefore, limited.

Electricity

Electricity prices have no substantial impact on Wärtsilä's production costs. In the energy markets, high electricity prices support investments in new capacity by utility customers. Lower grid electricity prices do not favour investments in their own generating capacity by industrial customers.

Hazard risks

Occupational health and safety systems, travel safety instructions, and crisis management guidelines are aimed at protecting Wärtsilä employees. Appropriate insurances are in place for the personnel, and to emphasise the importance of employee safety, the Board of Management has decided on a corporate level target of zero lost-time injuries. A specific Zero Injury project exists for this purpose, and the target is included in the company's sustainability programme. During 2019, the near-miss reporting system, WeCare, was actively used worldwide in order to manage information related to incidents that can threaten the safety, health, and security of the company's employees and operations, as well as the environment. This IT solution provides a guide for identifying the causes of incidents and for taking all appropriate actions in a systematic way.

Environmental management systems are in place to mitigate environmental hazard risks. Wärtsilä maintains a register of all properties used and gives guidelines for the purchase, sale, rental, and security of premises, and uses external advisors for environmental audits.

None of Wärtsilä's major facilities are located in natural disaster areas. Catastrophic peril related scenarios are identified and, where necessary, exposures are mitigated by, for example, elevating sites above the flood risk level or by constructing flood dikes. For Wärtsilä's main sites, business impact analyses have been conducted and continuity plans created to cover both property and business interruption risks.

The risks that Wärtsilä is unable to influence through its own efforts are transferred, whenever possible, to insurance companies. Wärtsilä uses appropriate insurance policies to cover indemnity risks related to its personnel, assets, and business interruptions, including supplier triggered interruptions, as well as third-party and product liability. Wärtsilä has established its own captive insurance company, Vulcan Insurance PCC Ltd. This risk management tool only insures Wärtsilä's own risks. For insurance technical reasons, the company is located on the island of Guernsey. Vulcan Insurance PCC Ltd's results are consolidated into the corporation's books and are subject to normal taxation in Finland.

Which insurances cover our business?

Business operation Design } Sourcing } Transportation } Manufacturing } Transportation } Construction & erection } Operation & maintenance

Risk management

Everyone is responsible

.....
Policies, guidelines, management and reporting systems, business continuity plans

Insurance

.....
General third party and product liability + professional indemnity insurance

.....
Cyber insurance

.....
Professional indemnity insurance } Business interruption insurance } Cargo (transportation) insurance } Property insurance } Cargo (transportation) insurance } Construction/erection all risk insurance (CAR/EAR) } Property insurance for owner/buyer







Both risk management work and casualty insurance cover Wärtsilä's products over their entire lifecycle.

Financial risks

Wärtsilä's financial risks are presented in the notes to the financial statements, [Note 33](#).

Risk profiles and responsibilities

Low  High

Risks	Risk profile	Policy or other guideline	Responsible body
Strategic risks		Wärtsilä's strategy and business plans	Wärtsilä's Board of Directors (BoD), Board of Management (BoM) and Businesses
Business environment risk		Wärtsilä's strategy and business plans	BoM and Businesses
Market and customer risk		Wärtsilä's strategy and business plans	BoM and Businesses
Competitive situation and price risk		Wärtsilä's strategy and business plans	BoM and Businesses
Political and legislative risk		Various guidelines and risk management policy	Businesses, R&D, Risk management (RM) and Legal functions
Climate change and sustainability risk		QHSE policy, Code of Conduct, management systems (ISO 14001 & OHSAS 18001)	Businesses, R&D and Sustainability function
Technology risk		Patents and industrial rights, product guarantees	Businesses and R&D
Operational risks		Wärtsilä's strategy and business plans	BoM and Businesses
Manufacturing risk		Production systems, Business Continuity Plan	Manufacturing and Businesses
Supplier and subcontractor risk		Supplier requirement and supplier management system, Business Continuity Plan	Businesses and Supply Management
Lifecycle quality of products and product liability risk		Management systems (ISO 9001), safety instruction and manuals, risk management policy, R&D risk elimination instructions	Manufacturing, R&D, Businesses, RM, Quality and Legal functions
Contractual risks		Standard contracts, Corporate Sales Contracting Policy	Legal function and Businesses

Commodity price risk	■	Production cost control	Businesses and Treasury function
Data security risk	■ ■	Data security principles and Cyber Security Strategy	Businesses and IM function
Non-compliance risk	■ ■	Code of Conduct, Anti-corruption policy, Compliance policy, Whistle-blowing channel	Businesses and Compliance function
Hazard risks		Risk management policy and guidelines	Businesses and RM function
Personnel risk	■	Management system (OHSAS 18001), travel safety instructions, crisis management guidelines, near misses reporting and premises safety plans	Businesses, Human Resources, RM, EHS and security functions
Natural catastrophes	■	Crisis management guidelines, Business Continuity Plan	Businesses and RM function
Fire, cargo and other accidents	■ ■ ■	Management systems (ISO 14001 & OHSAS 18001), premises safety plan	Businesses, RM and Real Estate functions
Financial risks		Wärtsilä's strategy and business plans	Businesses and Treasury function
Foreign exchange risk	■ ■	Treasury policy	Businesses and Treasury function
Interest rate risk	■ ■	Treasury policy	Businesses and Treasury function
Liquidity and refinancing risk	■ ■	Treasury policy	Businesses and Treasury function
Credit risk	■ ■ ■	Credit and Treasury policy	Businesses and Treasury function

Low ■■■■■ High

Investors

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Shares

Wärtsilä Corporation's shares are listed on the Nasdaq Helsinki Large Cap list under the trading code WRT1V. At the end of the financial period 2019, the number of Wärtsilä shares totalled 591,723,390, and the share capital entered in the trade register was EUR 336,002,138.50. Wärtsilä has one share series, with each share entitling its holder to one vote at the General Meeting and to an equal dividend.

Key figures for the Wärtsilä share

		2019	2018	2017	2016	2015
Earnings per share (EPS)*	EUR	0.37	0.65	0.63	0.60	0.75
Book-value of equity per share*	EUR	4.05	4.09	3.97	3.87	3.72
Dividend per share*	EUR	0.48 ¹	0.48	0.46	0.43	0.40
Dividend per earnings	%	130.8 ¹	73.7	70.8	72.8	53.3
Dividend yield	%	4.9 ¹	3.5	2.6	3.0	2.8
Price per earnings (P/E)		26.6	21.4	27.0	23.8	18.8
Price to book-value (P/BV)		2.4	3.4	4.4	3.7	3.8
Adjusted number of shares*	x 1 000					
End of financial year		591 723	591 723	591 723	591 723	591 723
On average		591 723	591 723	591 723	591 723	591 723

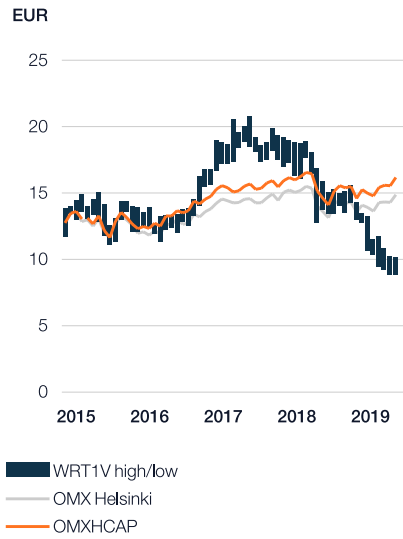
¹ Proposal of the Board of Directors

* The figures in the comparison periods 2015-2017 have been restated to reflect the increased number of shares.

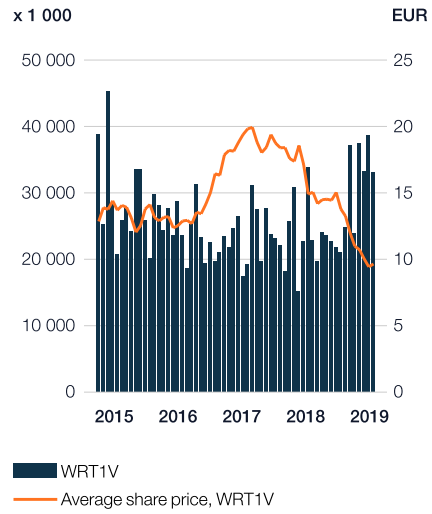
Wärtsilä's shares on Nasdaq Helsinki

Wärtsilä's share price decreased by 29.1% during 2019, while the OMX Helsinki Industrials and the OMX Helsinki Cap index increased by 25.9% and 14.8%, respectively. The highest quoted price for Wärtsilä's share during the financial period was EUR 15.56 and the lowest EUR 8.78. The closing price on 31 December 2019 was EUR 9.85. The volume weighted average price for the year was EUR 11.82. At year-end, Wärtsilä's market capitalisation was EUR 5,828 million. The volume of trades on Nasdaq Helsinki was 333,483,579 shares, equivalent to a turnover of EUR 3,947 million. Wärtsilä's shares are also traded on alternative exchanges, including Turquoise, BATS CXE and BATS BXE. The total trading volume on these alternative exchanges amounted to 229,045,024 shares. Further information on the company's share price development can be found on Wärtsilä's IR pages at www.wartsila.com/investors.

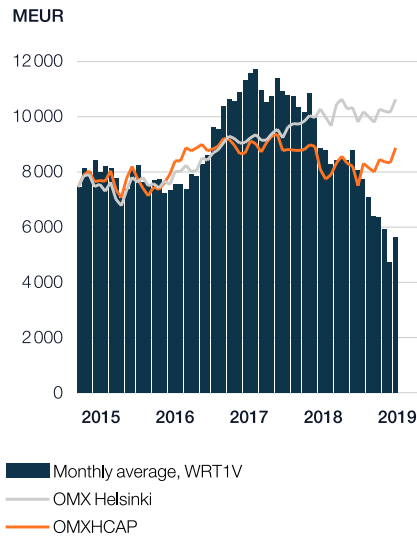
Share price development



Traded shares/month



Market capitalisation



Wärtsilä shares on Nasdaq Helsinki

		2019	2018	2017	2016	2015
Trading volume	MEUR	3 947	4 754	4 800	3 826	4 529
Number of traded shares*	x 1 000	333 484	278 938	268 222	296 611	341 211
Stock turnover	%	55.0	47.1	45.3	50.1	80.0
Share price, high*	EUR	15.56	19.88	20.77	14.48	14.99
Share price, low*	EUR	8.78	12.75	13.97	11.30	11.07
Average share price*	EUR	11.82	17.04	17.90	12.89	13.28
Share price at year-end*	EUR	9.85	13.90	17.53	14.23	14.05
Year-end market capitalisation	MEUR	5 828	8 222	10 375	8 418	8 314

* The figures in the comparison periods 2015-2017 have been restated to reflect the increased number of shares.

Shareholders

Wärtsilä had 76,889 shareholders at the end of the financial period 2019. Foreign shareholding, including nominee registered shares, represented 52.8% (54.5) of the total shareholder base at the end of the period, while Finnish retail investors represented 20.4% (17.9). Investors in Sweden, the United Kingdom and the United States held the largest percentage of foreign shares. Further information concerning the company's shareholder base development can be found on Wärtsilä's IR pages at www.wartsila.com/investors.

Ownership structure on 31 December 2019

Group	Number of shareholders	%	Number of shares	%
Private corporations	2 840	3.7	26 018 199	4.4
Banks and insurance companies	125	0.2	23 504 765	4.0
Public sector entities	47	0.1	69 807 761	11.8
Non-profit organisations	1 020	1.3	39 377 904	6.7
Households	72 383	94.1	120 630 442	20.4
Outside Finland	474	0.6	111 508 050	18.8
Nominee registered			200 876 269	33.9
Total	76 889	100.0	591 723 390	100.0

Ownership structure 31 December 2019



■ Nominee registered, 33.9% (53.5)
■ Households, 20.4% (17.9)
■ Outside Finland, 18.8% (1.0)
■ Public sector entities, 11.8% (10.7)
■ Non-profit organisations, 6.7% (6.1)
■ Private corporations, 4.4% (7.6)
■ Banks and insurance companies, 4.0% (3.2)

Division of shares on 31 December 2019

Number of shares	Number of shareholders	%	Number of shares	%
1-100	24 012	31.2	1 087 193	0.2
101-1 000	33 520	43.6	13 496 821	2.3
1 001-10 000	16 841	21.9	50 729 613	8.6
10 001-100 000	2 300	3.0	55 657 442	9.4
100 001-1 000 000	183	0.2	45 140 133	7.6
1 000 001-10 000 000	30	0.0	72 715 976	12.3
10 000 001-	3	0.0	152 096 118	25.7
Nominee registered			200 800 094	33.9
Total	76 889	100.0	591 723 390	100.0

Wärtsilä's 50 major shareholders on 31 December 2019, excluding nominee registered

	Owner	Shares	%
1	Invaw Invest AB	104 711 363	17.7
2	Varma Mutual Pension Insurance Company	31 768 252	5.4
3	Ilmarinen Mutual Pension Insurance Company	15 616 503	2.6
4	Elo Mutual Pension Insurance Company	6 400 000	1.1
5	Virala Oy Ab	5 900 000	1.0
6	The Social Insurance Institution of Finland	5 807 730	1.0
7	Svenska litteratursällskapet i Finland r.f.	5 180 677	0.9
8	Holdix Oy Ab	4 558 714	0.8
9	Turret Oy Ab	4 102 162	0.7
10	State Pension Fund of Finland	4 020 000	0.7
11	Keva	3 736 467	0.6

12	Jenny and Antti Wihuri Foundation	2 700 000	0.5
13	Sigrid Jusélius Foundation	2 374 505	0.4
14	The Finnish Cultural Foundation	2 207 497	0.4
15	Schweizerische Nationalbank	2 028 124	0.3
16	Op-Suomi -sijoitusrahasto	1 801 541	0.3
17	Oy Ingman Finance Ab	1 709 000	0.3
18	Nordea Allemansfond Alfa	1 614 914	0.3
19	Sijoitusrahasto Nordea Pro Suomi	1 598 317	0.3
20	Holding Manutas Oy	1 540 000	0.3
21	Rantanen Tuula Anneli	1 523 798	0.3
22	Samfundet Folkhälsan i Svenska Finland rf	1 434 600	0.2
23	The Signe and Ane Gyllenberg foundation	1 400 000	0.2
24	Blåberg Olli Edvard	1 220 000	0.2
25	Sr Danske Invest Suomi Osake	1 198 298	0.2
26	Sijoitusrahasto Evli Eurooppa	1 194 681	0.2
27	Louise och Göran Ehrnrooth Stiftelse	1 143 642	0.2
28	Bergsrådinnan Sophie von Julins Stiftelse sr	1 129 518	0.2
29	Veritas Pension Insurance Company Ltd	1 089 966	0.2
30	Nordea Swedish Stars	1 038 709	0.2
31	Folkhälsan i Svenska Finland rf Inez och Julius Polins Fond	1 023 600	0.2
32	Oy Julius Tallberg Ab	1 021 740	0.2
33	Sijoitusrahasto Nordea Suomi Passiivinen	1 017 776	0.2
34	Seb Finlandia Optimized Low Carbon	956 883	0.2
35	Åbo Akademi Foundation	894 947	0.2
36	Fromond Elsa Margaretha Louise	860 800	0.1
37	William Thuring's Stiftelse	840 380	0.1
38	Stockmann Marita	813 678	0.1
39	Gripenberg Gerda Margareta Lindsay Db	808 000	0.1
40	Livrånteanstalten Hereditas	755 470	0.1
41	Von Fieandt Berndt Johan	706 146	0.1
42	Brita Maria Renlund Foundation	700 000	0.1
43	Sijoitusrahasto Seligson & Co	658 350	0.1
44	Von Julin Sofia Margareta Db	646 000	0.1
45	Folkhälsans Forskningsstiftelse - Kansanterveyden tutkimussäätiö	639 404	0.1
46	Sijoitusrahasto Aktia Capital	600 000	0.1
47	Ella and Georg Ehrnrooth Foundation	553 161	0.1
48	Markkola Leena	541 661	0.1
49	Barry Staines Linoleum Oy	510 000	0.1
50	Op-Henkivakuutus Oy	507 995	0.1
	Total	236 804 969	40.0

Changes in ownership – flagging notifications

Under the provisions of the Finnish Securities Markets Act, shareholders of listed companies have an obligation to notify both the Finnish Financial Supervision Authority and the listed company of changes in their holdings when crossing predefined thresholds. The table below summarises the flagging notifications received by Wärtsilä during 2019. Further information can be found on Wärtsilä's website at www.wartsila.com/investors/shareholders/flaggings.

Transaction date	Shareholder	Threshold	Direct holding, %	Total holding, %
22.2.2019	BlackRock, Inc.	Below 5%	4.94	5.35
26.2.2019	BlackRock, Inc.	Above 5%	5.07	5.42
22.3.2019	BlackRock, Inc.	Below 5%	4.82	5.38
26.4.2019	BlackRock, Inc.	Above 5%	5.02	5.18
3.5.2019	BlackRock, Inc.	Below 5%	4.95	5.18
7.5.2019	BlackRock, Inc.	Above 5%	5.00	5.23
10.5.2019	BlackRock, Inc.	Below 5%	4.98	5.23
21.5.2019	BlackRock, Inc.	Above 5%	5.02	5.16
24.5.2019	BlackRock, Inc.	Below 5%	4.97	5.16
31.5.2019	BlackRock, Inc.	Below 5%	Below 5%	Below 5%
11.6.2019	Fiskars Corporation	Below 5%	Below 5%	Below 5%

Management holdings

The members of the Board of Directors, the President & CEO, and the corporations under their control, owned altogether 226,930 shares in Wärtsilä Corporation at the end of 2019, which represents 0.04% of the stock and voting rights. Further details on the Board of Directors' and Board of Management's ownership of Wärtsilä's shares can be found in the [Corporate Governance](#) section.

Authorisations granted to the Board of Directors

The Annual General Meeting, held on 7 March 2019, authorised the Board of Directors to resolve to repurchase a maximum of 57,000,000 of the company's own shares. The authorisation to repurchase the company's own shares shall be valid until the close of the next Annual General Meeting, however no longer than 18 months from the authorisation of the shareholders' meeting.

The Board of Directors was authorised to resolve to issue either new shares or transfer own shares held by the company. The maximum number of shares to be so issued shall not exceed 57,000,000. The Board of Directors was authorised to issue the shares for consideration or without consideration. The Board of Directors was also authorised to issue the shares in deviation from the shareholders' pre-emptive rights by way of a directed issue, if there is a weighty financial reason for the company to do so. The authorisation for the Board of Directors to issue shares shall be valid for three years from the authorisation of the shareholders' meeting and it cancels the authorisation given by the General Meeting on 8 March 2018 to distribute the company's own shares.

The Board of Directors' dividend proposal

The Board of Directors proposes that a dividend of 0,48 euro per share be paid for the financial year 2019. The dividend will be paid in two equal instalments.

Wärtsilä on the capital markets

Wärtsilä's Investor Relations (IR) team, consisting of the CEO, CFO, Vice President for Investor Relations, and IR Manager, participated in over 310 investor meetings during 2019. The team also maintained regular contact with equity research analysts throughout the year.

Meetings with institutional investors were conducted in North America, the United Kingdom, continental Europe, and in the Nordic countries. During the year, Wärtsilä's IR team held roadshows on 20 days and attended eight investor conferences. Wärtsilä also organised a site visit to CSSC Wärtsilä Engine (Shanghai) Co., Ltd (CWEC), the joint venture company formed between Wärtsilä and China State Shipbuilding Corporation (CSSC). CWEC opened its production facility at Lingang, Shanghai, China, in early 2017. The facility produces state-of-the-art Wärtsilä diesel and dual-fuel engines and employs an advanced real-time data collection and visualisation system to reduce risks and increase efficiency.

Wärtsilä's Capital Markets Day was held in November in Helsinki. The presentation topics covered the operating environment, progression towards financial targets, strategic focus areas for the Energy and Marine businesses, and growth opportunities for the coming years. Furthermore, there was an external speaker from Bloomberg New Energy Finance sharing their view on the energy market outlook. The event was well-appreciated by 60 institutional investors, equity analysts, and bankers in attendance. In addition, 160 persons participated via webcast.

Wärtsilä's Investor Relations policy

The ultimate objective of Wärtsilä's Investor Relations is to produce accurate, sufficient, and up-to-date information regarding the development of Wärtsilä's business operations, strategy, markets, and financial position. This is to ensure that the capital markets have the relevant information concerning Wärtsilä in order to determine the fair value of the company's shares. To achieve this objective, Wärtsilä publishes annually two interim reports, a half-year financial report, a financial statements bulletin, an annual report, and stock exchange releases. Furthermore, Wärtsilä's management conducts regular discussions with analysts and investors, both in Finland and abroad. Wärtsilä's web pages serve as an archive for all current and historical data on factors affecting the value of its shares.

Prospects

Guidance on Wärtsilä's prospects is published in the financial statements bulletin, in the half-year financial report, and in the interim reports. The most recently published prospect statement is repeated in the annual report. The published prospect statement consists of expectations regarding demand development in Wärtsilä's markets, and it is approved by the Board of Directors. Wärtsilä does not publish quarterly result forecasts. Should there be a change in business circumstances that could affect the prospects, Wärtsilä will publish changes to the prospects in accordance with prevailing regulations.

Analyst reports

Wärtsilä will review, upon request by an analyst, his or her earnings model or report only for factual accuracy, or for information that is in the public domain. Wärtsilä does not comment on, or take any responsibility for, estimates or forecasts published by capital market representatives.

Silent period

Wärtsilä observes a three-week silent period preceding the publication of its results to prevent the revealing of unpublished financial information. During this period, the company's representatives do not meet with investors or analysts or comment on its financial position.

Disclosure policy and financial communications

Wärtsilä discloses information on its targets, financial position, and business operations in an open, timely, truthful, and systematic manner so as to enable stakeholders to form a true and fair view of the company. Wärtsilä publishes

stock exchange releases, press releases, and trade press releases. Wärtsilä's subsidiaries publish press releases with local relevance.

Matters that contain inside information and may have a material impact on the value of the company's financial instruments are published as stock exchange releases. Press releases contain information on events relating to Wärtsilä's normal business operations, which are assessed to be of general interest for investors and media. Releases to the trade press provide more detailed information on Wärtsilä's products and technologies. All stock exchange releases are published in Finnish, Swedish, and English. Press releases are published in English and can also be published in Finnish and Swedish. Trade press releases are published in English, and local releases in the local language. All releases are available on Wärtsilä's website immediately following publication.

Contacts

Relations with the company's investors and analysts are handled by Natalia Valtasaari, Vice President, Investor Relations, together with the IR team. General enquiries can be sent to investor.relations@wartsila.com.

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Wärtsilä's corporate communications are the responsibility of Atte Palomäki, Executive Vice President, Communications, Branding & Marketing.

Atte Palomäki

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Tel. +358 10 709 5599
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Analysts

To the best of Wärtsilä's knowledge, the below listed brokers and financial analysts follow the company's development on their own initiative. They have analysed Wärtsilä's performance and drawn up reports and comments. As a result, they are able to evaluate the company as an investment target. Wärtsilä takes no responsibility for the opinions expressed.

Company	Analyst	Contact
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UBS Deutschland AG	Sven Weier	sven.weier@ubs.com +49 69 1369 8278

Information for shareholders

Annual General Meeting

The Annual General Meeting of Wärtsilä Corporation will take place on Thursday, 5 March 2020, beginning at 3 p.m., at Messukeskus, address: Messuaukio 1, 00520 Helsinki, Finland (Messukeskus Siipi entrance).

Right to attend

Shareholders registered no later than 24 February 2020 in the company's list of shareholders maintained by Euroclear Finland Ltd have the right to attend the Annual General Meeting.

Notification of attendees

Shareholders wishing to attend the Annual General Meeting are required to inform the company thereof no later than 4 p.m. on 2 March 2020 either by e-mail, on the company's website www.wartsila.com/agm_register, by telephone, or by regular mail. Letters and e-mails informing of participation must reach the company before the notification period expires at 4 p.m. on 2 March 2020. Letters authorising a proxy to exercise a shareholder's voting right at the Annual General Meeting should also reach the company before the notification period expires.

Registration:

Wärtsilä Corporation
Share Register
P.O. Box 1834
FI-00080 WÄRTSILÄ
Finland

Telephone: +358 10 709 5282, between 9 a.m. and 12 p.m. (noon) on weekdays
E-mail: yk@wartsila.com
Internet: www.wartsila.com/agm_register

Payment of dividend

The Board of Directors proposes that a dividend of 0.48 euro per share be paid for the financial year 2019. The dividend will be paid in two instalments.

The first instalment of 0.24 euro per share will be paid to shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the record date 9 March 2020. The payment date proposed by the Board for this instalment is 16 March 2020.

The second instalment of 0.24 euro per share will be paid to shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the dividend record date, which, together with the payment date, shall be decided by the Board of Directors in its meeting scheduled for 8 September 2020. The dividend record date for the second instalment as per the current rules of the Finnish book-entry system would be 10 September 2020 and the dividend payment date 17 September 2020.

Stock exchange releases

Wärtsilä's stock exchange releases are available in English, Finnish, and Swedish on Wärtsilä's website at www.wartsila.com/media/news-releases.

Financial calendar 2020

Annual Report 2019 on Tuesday, 11 February 2020

Interim Report January-March 2020 on Tuesday, 21 April 2020

Half-year Financial Report January-June 2020 on Friday, 17 July 2020

Interim Report January-September 2020 on Friday, 23 October 2020

Financial Statements Bulletin January-December 2020 on Thursday, 28 January 2021

Annual reports, interim reports, half-year reports, and financial statements bulletins are available in English, Finnish, and Swedish on Wärtsilä's website, www.wartsila.com. Wärtsilä's financial calendar can be found on the company's investor pages on www.wartsila.com/investors.

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Board of Directors' report

Business model

Wärtsilä provides the marine and energy markets with smart technologies and optimised lifecycle services. In the energy industry, Wärtsilä offers flexible power plants as well as energy management and storage systems on an equipment only or turnkey delivery basis. The marine offering consists of power, voyage, and processing solutions. Wärtsilä has the capabilities needed to combine its marine products into larger integrated systems and solutions. Wärtsilä's portfolio of services ranges from spare parts and technical expertise, to lifecycle solutions ensuring a maximised installation lifetime, increased efficiency, and guaranteed performance. The company aims at maximising environmental and economic performance by emphasising sustainable, data-driven innovation and total efficiency.

To support its geographically dispersed customer base, Wärtsilä's sales and service network covers in excess of 200 locations in more than 80 countries around the world. Wärtsilä operates primarily through its subsidiaries and strategic joint ventures. The company's manufacturing model is assembly based, thus emphasising the importance of developing long-term relationships with its global network of suppliers, which consists of approximately 1,250 direct global suppliers. Wärtsilä's personnel is made up of approximately 19,000 employees comprising roughly 140 nationalities. By recruiting and retaining the best talent, Wärtsilä is able to be the most valued business partner to its customers, and the employer of choice for current and future employees. Wärtsilä is committed to conducting its business in a responsible manner, and promotes responsible practices throughout its value chain.

Strategy

Wärtsilä's purpose is to enable sustainable societies with smart technology. The demand for clean and flexible energy and the need for efficient and safe transportation are increasingly affecting the way that customers operate. This forms the basis for Wärtsilä's Smart Marine and Smart Energy visions.

Wärtsilä's profitable growth ambitions are supported by its strong presence in key markets and a superior global service network. An integrated portfolio of services, systems, and products that covers customer needs throughout the full lifecycle positions Wärtsilä well to respond to the demand for energy efficient and innovative solutions. Emphasis is given to optimising performance through upgrades, modernisations, fuel conversions, and safety solutions, and by using data analytics and artificial intelligence to support customer business decisions. The utilisation of connectivity and smart technologies plays a key role in the optimisation of assets and in providing strategic input to customers in order to enhance their business growth. Asset management will drive future growth in lifecycle solutions and enable new "as-a-service" business models.

Wärtsilä's digital transformation provides enhanced customer value through an increased focus on collaboration and knowledge sharing. With its flexible production and supply chain management, Wärtsilä constantly seeks new ways to maintain high quality and cost efficiency – often in co-operation with customers and leading industrial partners. Investments in research and development, and specifically in digitalisation, create a strong foundation for securing and strengthening the company's position at the forefront of market innovation.

This innovative culture, together with a constant emphasis on safety, diversity, and high ethical standards, attracts skilled and committed people and creates the basis for a high performing organisation. The focus on operational excellence ensures that Wärtsilä is a company easy to do business with and drives increased productivity and efficiencies for its customers.

Strategy implementation in 2019

2019 saw the introduction of several new concepts and solutions to support the realisation of Wärtsilä's strategy. These included navigation solutions for the marine markets, a new hybrid solution for the energy markets that pairs engines with storage technology, as well as service solutions leveraging advanced diagnostics to optimise performance.

Wärtsilä's Smart Marine and Smart Energy initiatives resulted in a number of important orders that validated the commercial feasibility of this approach. Among the most notable of these orders was one to equip Anglo-Eastern's fleet of over 600 vessels with a fleet optimisation solution. Wärtsilä also secured its first order for the SmartDock system, making it the world's first commercially available auto-docking solution. The need for flexible power solutions to support the expansion of renewable energy and secure grid reliability was illustrated by the strong growth in energy storage and optimisation orders. Won contracts included the 100 MW/100 MWh total capacity energy storage project awarded to Wärtsilä in South East Asia. The energy storage system, which includes the advanced energy management software platform GEMS, will support the region in reducing its reliance on fossil fuels. Another order reflecting the benefits of flexibility was the contract awarded to Wärtsilä to supply a 200 MW engine power plant to Cambodia. In addition to adding much needed capacity to the grid, the plant will provide fast-starting, balancing flexibility to enable the future integration of increased levels of renewable energy into the power system.

Collaboration with industry stakeholders is an essential element in the development of technologies needed to meet the changing market requirements, and Wärtsilä signed several new partnership agreements during the year. Among these were agreements aimed at accelerating the development and commercialisation of renewable fuels in the energy markets, and joint initiatives to promote the decarbonisation of shipping.

Several major milestones were reached during 2019 with regards to the construction of the Smart Technology Hub, a new centre of research, product development and production. The project progressed from planning to implementation, with excavation work and construction started in August, and the first partners selected for the Smart Partner Campus.

Wärtsilä has continued its leadership development programmes in many areas. Increased emphasis is being placed on establishing virtual learning solutions, since these can ease and offer greater flexibility in accessing learning opportunities, while also saving time and cost. A new leadership development programme for senior managers was launched mid-2019, with the focus on creating a Wärtsilä culture that builds and sustains high performance. The programme contains elements related to leading high performing teams, leadership and performance excellence, and customer centricity.

The health and safety of personnel is a priority for Wärtsilä, and zero lost-time injuries continues to be the company's global target. Lost-time injury frequency was 2.25 in 2019, which represents a decrease of 10% compared to the previous year. Proactive measures to further strengthen the safety culture within Wärtsilä continued throughout the year. As a highlight, management safety walks increased by 56%, and near miss reporting by 14% compared to the previous year. Furthermore, altogether 3,900 persons completed 'Champions in Safety', a new training programme for front line employees. Wärtsilä's fifth global safety day was arranged in March, the objective being to raise awareness of Wärtsilä's lifesaving rules.

Financial targets and outcome in 2019

Wärtsilä's long-term financial target is to grow faster than global GDP, and to maintain its operating profit margin between 14% at the peak of the cycle and 10% at the trough. Furthermore, the target is to maintain gearing below 0.50, and to pay a dividend of at least 50% of earnings per share over the cycle.

Wärtsilä's net sales for 2019 was in line with that of the previous year, bringing Wärtsilä's five-year compound annual growth rate to 2%. The global real GDP is estimated to have increased by 3% in 2019, giving a five-year compound annual growth rate of 1.9%. The comparable operating result amounted to EUR 457 million, which represents 8.8% of net sales. Profitability was below the long-term target, as cost overruns in a handful of complex marine and energy projects and lower than anticipated energy equipment deliveries weakened the operating result. Gearing increased to 0.30, largely due to the implementation of the new IFRS 16 Leases standard. Excluding the impact of

lease liabilities, gearing amounted to 0.22. The Board of Directors' proposed dividend of EUR 0.48 per share represents 130.8% of operational earnings.

Target	Development in 2019	Development in 2018
Net sales growth faster than global GDP	0%	5% increase
Comparable operating result margin between 10% and 14%	8.8%	11.2%
Gearing below 0.50	0.30	0.14
Dividend payment at least 50% of earnings per share over the cycle	130.8% ¹	73.7%

¹ Proposal of the Board of Directors

The year 2019

Operating environment, order intake, and order book

Demand for Wärtsilä's services and solutions during the period January-December 2019 was below that of the previous year. In the marine markets, equipment order intake was affected by fewer orders received for scrubber solutions and by the weak contracting environment in certain vessel segments. Delayed investment decisions burdened activity in the energy market throughout the year. The demand for services was, however, sound in both end-markets.

Wärtsilä's order intake for 2019 decreased by 16% to EUR 5,327 million (6,307) from the previous year, due to fewer equipment orders in both businesses. The book-to-bill ratio was 1.03 (1.22). Wärtsilä Marine accounted for 66% of the order intake and Wärtsilä Energy for 34%. Services related order intake increased by 3% to EUR 2,676 million (2,598).

The total order book at the end of December decreased by 5% to EUR 5,878 million (6,166). Wärtsilä Marine accounted for 65% of the order book and Wärtsilä Energy for 35%.

Net sales and operating result

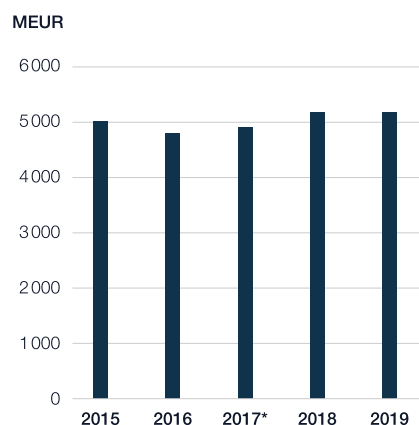
Wärtsilä's net sales for 2019 were stable compared to the previous year, amounting to EUR 5,170 million (5,174). Increased marine equipment deliveries and growth in service volumes served to offset the decline in energy equipment deliveries. Wärtsilä Marine accounted for 64% of net sales and Wärtsilä Energy for 36%. Services related net sales increased by 3% to EUR 2,502 million (2,419). Adjusting for the effects of currency translation, services related net sales increased by 2%. Of Wärtsilä's net sales, approximately 67% was EUR denominated, 20% USD denominated, with the remainder being split between several currencies.

The operating result amounted to EUR 362 million (543) in the financial period, which represents 7.0% of net sales (10.5). The comparable operating result was EUR 457 million (577), or 8.8% of net sales (11.2). Items affecting comparability included costs of EUR 95 million (35). These consisted primarily of restructuring costs and additional costs related to the closure of the Wärtsilä Hyundai Engine Company (WHEC) joint venture in South Korea. The comparable operating result for Wärtsilä Marine amounted to EUR 305 million (380), or 9.1% of net sales (13.5), while the comparable operating result for Wärtsilä Energy amounted to EUR 152 million (197), or 8.3% of net sales (8.4). The comparable adjusted EBITA was EUR 498 million (621), or 9.6% of net sales (12.0). Purchase price allocation amortisation amounted to EUR 41 million (43). The result figures include charges of EUR 152 million related to cost overruns in certain large and complex project deliveries in the Marine and Energy businesses. Of the total amount, EUR 51 million was recognised in Wärtsilä Marine and EUR 101 million in Wärtsilä Energy. Corrective actions taken to prevent similar issues from occurring in the future include introducing tighter controls on technical assessments and the supplier approval process, as well as strengthening the project management organisation.

Financial items amounted to EUR -47 million (-40) during the period January-December. Net interest totalled EUR -12 million (-7). Profit before taxes amounted to EUR 315 million (502). The effective tax rate was burdened by tax charges related to previous financial periods. Taxes amounted to EUR 97 million (116), implying an effective tax

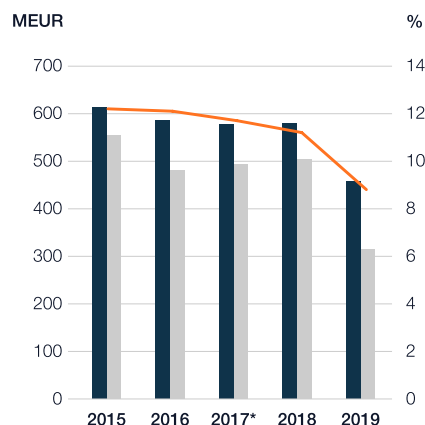
rate of 30.7% (23.1). Profit for the financial period amounted to EUR 218 million (386). Earnings per share were 0.37 euro (0.65), while the equity per share was 4.05 euro (4.09). Return on investment (ROI) was 11.5% (18.1), while return on equity (ROE) was 9.0% (16.1).

Group net sales development



* Restated due to IFRS 15

Result



■ Comparable operating result
 ■ Profit before taxes
 — Comparable operating result, %

* Restated due to IFRS 15

Megawatts delivered

	2019	2018	Change
Marine	1 505	1 087	38%
Energy	2 072	3 706	-44%
Wärtsilä total	3 577	4 793	-25%
By joint ventures	432	756	-43%
Deliveries total	4 009	5 549	-28%

Financing and cash flow

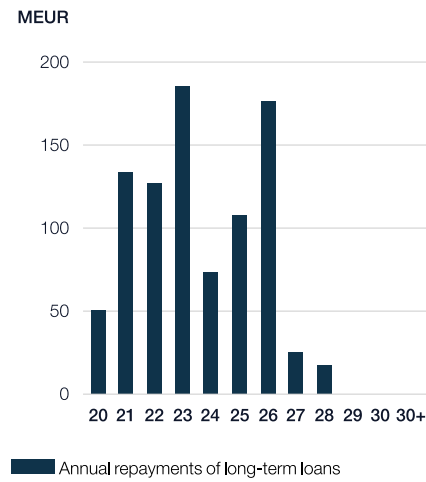
Wärtsilä's cash flow from operating activities totalled EUR 232 million (470) in 2019. Cash flow weakened due to the decrease in operating result and the increase in working capital. The latter was largely related to the build-up of inventories for upcoming scrubber deliveries. Working capital totalled EUR 732 million (581) at the end of the financial period, a decrease of EUR 138 million from the end of September. Advances received at the end of the period totalled EUR 452 million (584). At the end of September, advances totalled EUR 609 million. Cash and cash equivalents at the end of the period amounted to EUR 369 million (487) and unutilised Committed Credit Facilities totalled EUR 640 million (640).

Wärtsilä had interest-bearing debt totalling EUR 1,096 million (823) at the end of December. The increase in interest-bearing debt is largely related to the inclusion of lease liabilities amounting to EUR 188 million on the balance sheet, as a result of the new IFRS 16 standard. The total amount of short-term debt maturing within the next 12 months was EUR 99 million. Long-term loans amounted to EUR 997 million. Net interest-bearing debt increased to EUR 726 million (333), due to weak cash flow and the implementation of IFRS 16. Gearing was 0.30 (0.14) and the solvency ratio was 40.8% (44.4). Excluding the impact of lease liabilities, gearing amounted to 0.22.

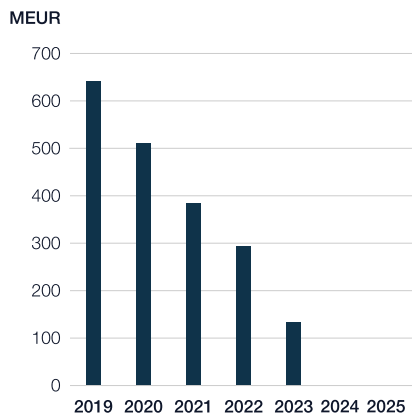
Loans



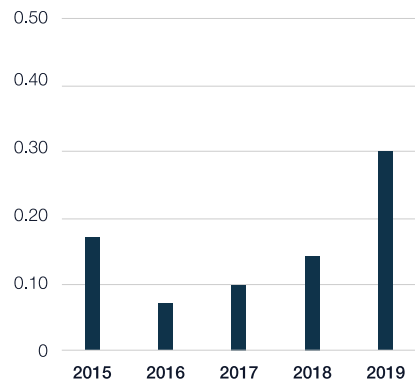
Maturity profiles of long-term loans



Committed revolving credit facilities (end of period)



Gearing

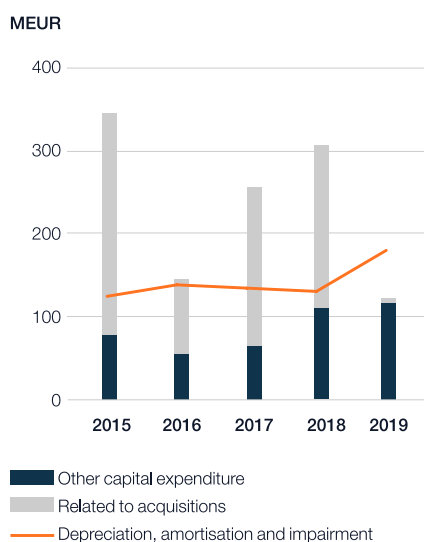


Capital expenditure

Capital expenditure related to intangible assets and property, plant, and equipment amounted to EUR 116 million (110) during 2019. Capital expenditure related to acquisitions totalled EUR 6 million (196). The comparison figure includes the acquisition of Transas, which was completed in May 2018. Depreciation, amortisation, and impairment for the period amounted to EUR 180 million (130). The increase is related to the implementation of the new IFRS 16 Leases standard.

In 2020, capital expenditure related to intangible assets and property, plant, and equipment is expected to be below depreciation, amortisation, and impairment.

Gross capital expenditure



Acquisitions and divestments

In May, Wärtsilä announced the acquisition of Ships Electronic Services Ltd (SES), a UK based company specialising in navigation and communication electronics, as well as installation, maintenance, and repair services, mainly for commercial and leisure vessels. SES, established in 1974, has its headquarters in Rochester and operates also out of nine other offices in the UK.

In December, Wärtsilä announced the divestment of Wärtsilä ELAC Nautik GmbH (ELAC Nautik) to Cohort plc, a UK listed company specialising in defence, security, and related market sectors. ELAC Nautik became part of Wärtsilä as a result of the acquisition of L-3 Communications MSI in 2015. Its main market focus is on hydroacoustic products, including sonars, underwater communication systems, and echo systems for small and medium sized military submarines. ELAC Nautik employs approximately 120 people and generates annual revenues of approximately EUR 21 million. Subject to approvals, completion of the transaction is expected in the early part of 2020.

Strategic projects and partnerships

In April, Wärtsilä agreed to provide seed funding to Soletair Power Oy, a Finland-based start-up company operating in the field of Power-to-X. Soletair Power Oy has developed a concept to improve air quality in buildings by capturing carbon dioxide and converting it to synthetic renewable fuel. This was followed in May by the announcement of a research collaboration with Lappeenranta-Lahti University of Technology on strategic power system modelling, with the aim of understanding and developing paths towards energy systems operating 100% on renewable energy sources.

In June, Wärtsilä entered into a cooperation agreement with Aggreko, a global power equipment supplier, to introduce a new concept for power markets built around the Wärtsilä Modular Block solution. The cooperation will also enable new business and financing models, such as power as a service or rentals.

In September, Wärtsilä and Q Power Oy, a Finnish bio-methanisation company, signed a cooperation agreement to accelerate the development and commercialisation of renewable fuels. The companies will work together to develop the market and find new business opportunities for bio-methanisation and synthetic fuels globally.

In October, Wärtsilä co-founded a new global cyber security alliance for operational technology, which aims to bridge dangerous gaps in security for operational technology and industrial control systems. Operational technology encompasses the hardware and software used to control physical systems, such as machinery in factories, power stations, ships, or ports. The Internet of Things and inter-connectedness of production systems in smart factories means that there is a significantly and rapidly growing risk of serious security breaches in these environments.

In November, Wärtsilä and Singapore-based PSA Marine announced their collaboration in the co-creation of smart technologies for the marine sector. Specific collaboration areas include the use of electric or hybrid technologies that enhance the utilisation of low-emission energy and propulsion systems, the incorporation of next-generation smart vessel technologies, the adoption of secured connectivity to facilitate ship-to-shore data exchange, as well as marketing and branding activities that generate awareness.

In December, Wärtsilä signed a strategic development agreement with the Chinese state-owned shipbuilder CSSC Huangpu Wenchong Shipbuilding Company Limited. The purpose of the five-year agreement is to build a cooperation framework and working mechanism for the research and development of hybrid power systems. Wärtsilä will support Huangpu Wenchong during the design and construction phases with technology innovations, system selection, performance calculations, and long-term services.

Innovations, research and development

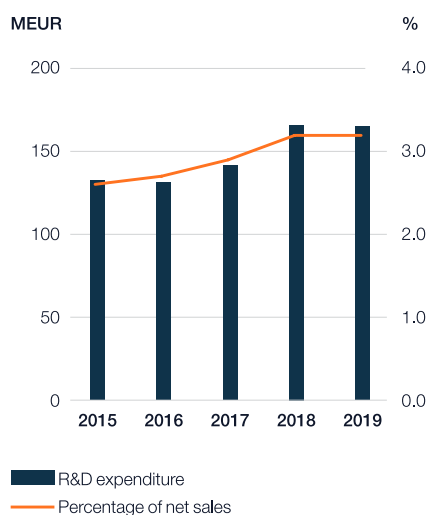
Research and development expenditure totalled EUR 164 million (165) in 2019, which represents 3.2% of net sales (3.2). The key focus areas included digitalisation, efficiency improvement, fuel flexibility, and the reduction of environmental impact.

The Wärtsilä 31 engine application range was expanded during the year, with the Wärtsilä 31SG pure gas engine being made available to the marine sector, and applications for the Wärtsilä 31DF multi-fuel engine being extended to include power generation markets. The Wärtsilä 31SG engine further reduces the total cost of ownership and the environmental footprint for vessels operating in regions where there is a developed gas supply infrastructure. The gas-only focus and lean-burn spark ignition technology allows for further optimisation of the engine's thermal efficiency, while also lowering greenhouse gas emissions and facilitating adaptations for alternative heavier gas fuels, such as LPG. The Wärtsilä 31SG engine is ideally suited for hybrid applications, since it provides outstanding thermal efficiency. It also enables investment cost reductions that help offset the additional cost of energy storage. The Wärtsilä 31DF engine, in turn, offers unequalled open-cycle efficiency, fuel flexibility, and unparalleled dynamic operational features for markets where a gas supply is anticipated but not yet available, or where there are concerns about the availability or price of gaseous fuels.

For the energy markets, Wärtsilä launched Engine+ Hybrid Energy, a solution that pairs engines with energy storage to form a fully integrated, automated system providing reliable and environmentally sound power generation with improved efficiency for the operators and power producers of islanded grids. The solution serves load requirements instantly, addresses step changes and intermittencies, and provides spinning reserves. GEMS, the control platform, automatically dispatches available assets and takes into account any operational constraints to ensure optimal operation. Wärtsilä also introduced its Modular Block power plant solution. This pre-fabricated, modularly configured, and expandable enclosure for Wärtsilä medium-speed 34SG gas engine generators enables the reduction of on-site installation time from several months to a few weeks. The solution makes Wärtsilä's advanced medium-speed engine technology available for applications where it would not be viable with a conventional custom-designed permanent building.

Digital developments included the launch of Wärtsilä Online, a new web-based customer platform aimed at providing a state-of-the-art support service that allows customers to better manage their installed assets. Wärtsilä Online enables mobile usage, new features for smart maintenance management, and real-time collaboration. Wärtsilä also introduced a digital version of Operim – Operational Performance Improvement & Monitoring, the new Navi-Planner voyage planning and optimisation solution, as well as the Expert Insight predictive maintenance product. By digitally augmenting physical products through the addition of data collection capabilities and cloud-based analytics, Operim enables improvements in operational performance through the continuous monitoring of and reporting on the key performance indicators, along with virtual instrumentation. The collected data are delivered to the system's user in real-time, thereby allowing appropriate and timely manual or autonomous decision-making in a predictive or adaptive manner. Developed by Transas, a Wärtsilä company, Navi-Planner makes use of the connected Electronic Chart Display and Information System (ECDIS) to significantly shorten voyage planning and to provide a minimum navigational safety standard for a less experienced crew. Expert Insight enables customer support to be delivered proactively by Wärtsilä Expertise Centres to ensure long-term accurate insight for their predictive maintenance strategies. The solution leverages artificial intelligence and advanced diagnostics to monitor equipment and systems in real-time, enabling enhanced safety, reliability, and efficiency.

Research and development expenditure



Restructuring programmes

In January 2019, Wärtsilä announced a group-wide programme to realign its operations and resources in order to secure future profitability and competitiveness. When finalised, the program is expected to lead to a reduction of approximately 1,200 employees globally and to generate savings of EUR 100 million. The related costs are estimated to be EUR 75 million.

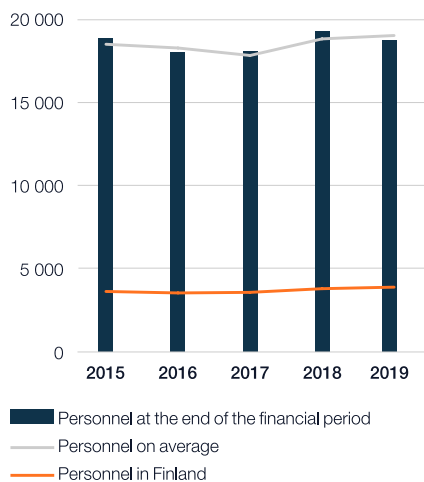
The majority of the planned actions were taken during the year. Approximately EUR 50 million of savings materialised by the end of 2019, of which a significant portion was volume related. Costs related to the restructuring measures amounted to approximately EUR 70 million. The remaining savings and costs will be recognised during 2020.

Personnel

Wärtsilä had 18,795 (19,294) employees at the end of December. On average, the number of personnel totalled 19,110 (18,899) during the period January-December. Wärtsilä Marine employed 13,460 (13,582) people at the end of the period and Wärtsilä Energy 5,335 (5,712).

Of Wärtsilä's total number of employees, 20% (20) were located in Finland and 42% (40) elsewhere in Europe. Personnel employed in Asia represented 23% (24) of the total, personnel in the Americas 11% (11), and personnel in other countries 4% (4).

Personnel



Changes in management

Ms Alid Dettke (38), double-degree BA (Hons) European Business, was appointed Executive Vice President Human Resources and member of the Board of Management, as of 24 October 2019. Ms Dettke joined Wärtsilä in November 2017 and had most recently held the position of Vice President for Open Innovation.

Ms Päivi Castrén acted as Executive Vice President, Human Resources until 24 October 2019.

Mr Marco Ryan acted as Executive Vice President and Chief Digital Officer until 17 July 2019. Following his departure, Wärtsilä's digital activities were embedded into the Marine and Energy businesses.

Non-financial report

Increasing environmental awareness is resulting in fundamental changes in both the marine and energy industries. Thanks to its various technologies and specialised services, Wärtsilä is well positioned to reduce exhaust emissions and the use of natural resources, and to support its customers in preparing for new regulatory requirements. R&D efforts continue to focus on the development of advanced environmental technologies and solutions. Wärtsilä emphasises responsible business conduct, and is committed to supporting the UN Global Compact and its principles with respect to human rights, labour, the environment and anti-corruption.

Responsible business conduct

The Wärtsilä Code of Conduct defines common rules for all employees, and provides guidance on Wärtsilä's approach to responsible business practices. The Code of Conduct is complemented by group-wide policies, including the quality, environmental, health and safety policy, the corporate policy on equal opportunities and fair employment practices, as well as policies related to anti-corruption, compliance reporting, and sourcing and purchasing.

Wärtsilä takes an active approach to the application of the Code of Conduct and promotes its implementation through the effective communication of its contents to its employees. Wärtsilä monitors the application of the Code internally to ensure understanding and commitment throughout the organisation. At the end of 2019, 17,727 employees, covering 94% of the total number of employees, had participated in the Code of Conduct training programme.

Suppliers and business partners are an integral part of the total value chain of the products and services of Wärtsilä. They are expected to conduct their businesses in compliance with the same high legal and ethical standards and business practices as Wärtsilä. Information on Wärtsilä's requirements is included in supplier agreement templates.

Environmental performance

Wärtsilä's main contribution to improved environmental performance lies in providing its customers with reliable and safe technologies and services, which, in addition to enabling environmental compliance, support the sustainable development of the marine and energy industries. Wärtsilä's products and solutions are designed to operate for up to 30 years. Therefore, focusing R&D efforts on improving the product or system level performance is crucial, as is adopting a lifecycle approach to performance optimisation. In addition to improving the environmental performance of its product and solutions, Wärtsilä also continuously monitors the impact caused by its own activities and targets reduced energy consumption in its facilities.

Wärtsilä's quality, environmental, health and safety policy sets principles for managing the environmental impacts of Wärtsilä's products and services. The potential risks related to environmental matters and climate change are in the areas of regulatory emission restrictions and changes in customer attitudes to using combustion engines and fossil fuels. Risks are managed by focusing on product efficiency improvement and emission reduction in R&D activities, as well as by developing a wide product offering, including technologies related to waste reduction, noise abatement, and effluent and ballast water treatment. During 2019, R&D investments totalled EUR 164 million, which represents 3.2% of net sales. The majority of these investments targeted improved environmental performance. Significant achievements related to sustainable innovation included the extension of the Wärtsilä 31 engine application range, with the Wärtsilä 31SG pure gas engine being made available to the marine sector, and applications for the Wärtsilä 31DF multi-fuel engine being extended to include power generation markets. The development of these engines is a direct result of Wärtsilä's on-going commitment to reduce greenhouse gas emissions from its gas engines by 15% by 2020 from 2015 levels. For the marine markets, Wärtsilä launched several solutions in support of its Smart Marine Ecosystem vision, including new navigation solutions, hybrid solutions, and offerings aimed at smarter performance and greater profitability. In the energy markets, Wärtsilä introduced a hybrid energy solution for isolated and remote grids, as well as a Modular Block power plant solution enabling the reduction of on-site installation time from several months to a few weeks.

Social and employee matters

Wärtsilä is a responsible employer, offering employees a workplace where openness, respect, trust, equal opportunities, and scope for personal development prevail. Wärtsilä is a signatory of the UN Global Compact initiative and supports the work-related rights defined by the International Labour Organization (ILO). Wärtsilä's corporate policy on equal opportunities and fair employment practices creates a common framework for employee practices in all Wärtsilä companies. People management processes, tools, and ways of working are developed to ensure consistency across national and organisational boundaries. Wärtsilä has a global job grading system and rewarding principles to ensure transparency and fairness for all employees, which are followed by all the entities in Wärtsilä globally.

The objective of Wärtsilä's people management strategy is to ensure that the businesses have the required resources, and skilled and motivated people at their disposal. In order to develop their competences, employees are offered a wide variety of internal training courses, including topics like technology, health and safety, language and culture, project management, environment, security, and leadership. The average number of learning days was 2.07 per employee in 2019.

Wärtsilä aims at offering employees and contractors a hazard-free working environment, and at minimising the health and safety risks associated with the use of its products and services. The company's occupational health and safety principles are defined in the Code of Conduct, the quality, environmental, health and safety (QEHS) policy, and in the directive on environment, health, and safety (EHS). Wärtsilä's units are required to have a management system in place that conforms to the QEHS Policy and the EHS directive. In addition to the management system, Wärtsilä companies apply occupational health and safety programmes as required by local legislation. Wärtsilä's aim is to reach a long-term goal of zero injuries. In 2019, the corporate lost-time injury frequency rate was 2.25 (2.50).

Respect for human rights

Wärtsilä supports and respects basic human values as outlined in the UN's universal declaration of human rights. Wärtsilä is also a signatory of the UN Global Compact and is thereby committed to its principles with respect to human rights, labour, the environment and anti-corruption. No employee is allowed to take any action that violates these human rights principles, either directly or indirectly. Wärtsilä does not accept the use of forced labour or child labour in any form. Human and Labour rights are a part of the Code of Conduct training material, and are included in Wärtsilä's policy on equal opportunities and fair employment practices as well as in the company's supplier handbook.

Anti-corruption and bribery matters

Wärtsilä's Code of Conduct, anti-corruption policy, and broker directive expressly prohibit the company and its employees from offering or accepting any kind of benefit considered a bribe and from taking actions that could give rise to a conflict of interest or breach of loyalty. The instructions make it compulsory to comply with anti-corruption laws of all the countries in which Wärtsilä does or intends to do business and urge the reporting of any cases of corruption and bribery.

Wärtsilä is aware of the risk of being subject to fraud by external business parties, and that the risk of corruption and fraud is heightened in many markets where the company operates. Therefore, full compliance with a stringent anti-corruption regime is required of all employees. An extensive training programme is in place for personnel on anti-corruption principles and applicable legislation as well as the relevant company policies and procedures. By the end of 2019, 86% of Wärtsilä's employees had participated in anti-corruption trainings. Employees are encouraged to provide feedback and communicate suspected misconduct to line management or directly to the compliance, legal affairs or internal audit function. Wärtsilä also has a dedicated tool through which employees can report infringements.

Reporting segments

Wärtsilä Marine

Operating environment

During 2019, 1,153 contracts for new vessels were registered (1,237 in 2018, excluding late contracting). Economic uncertainty, trade tensions, and regulatory considerations resulted in subdued contracting activity particularly in the merchant marine market. A wave of shipyard consolidations was announced during the year, as yards moved towards improving their competitiveness and better managing the prevailing overcapacity.

Activity remained solid in the gas carrier segment, driven by the growth in demand for liquefied natural gas (LNG), the increasing role of gas in the global energy mix, and firm spot rates. In the cruise segment, contracting activity favoured small and medium-sized vessels, due to the growing interest in luxury and expedition cruises, as well as capacity constraints in building larger ships. Investments in the ferry segment continued to be driven mainly by the replacement of older vessels, while the ferry market remained balanced in terms of supply and demand. In the offshore sector, contracting was burdened by reactivation and upgrades of stacked vessels, as well as by the slow rate of growth in vessel utilisation and day rates.

The focus on environmental issues and related regulations are driving increased efforts to minimise the environmental footprint of the shipping industry. This is resulting in a growing interest in LNG as a fuel and hybrid battery packs across vessel segments. While fuel price spreads are supportive of investments in scrubber technology, uncertainty around future developments and fuel availability has delayed decision-making among customers.

The demand for marine services was solid, with the most positive development seen in the merchant and cruise and ferry segments. In the cruise segment, activity favoured the servicing of automation and navigation solutions. For merchant vessels, demand increased particularly in the gas carrier segment, driven by continued growth in LNG trade and LNG carriers reaching their maintenance window for larger overhauls. Economic and trade related uncertainties resulted in slower service activity in the container vessel segment. Activity improved from a low level in the offshore support vessel segment, thanks to fleet reactivation and improving vessel utilisation.

Financial development

Order intake in 2019 amounted to EUR 3,517 million (3,945), a decrease of 11% compared to the previous year. Book-to-bill was 1.06 (1.40). Services orders decreased by 2% to EUR 1,715 million (1,747), while equipment orders decreased by 18% to EUR 1,802 million (2,198). The order book at the end of December amounted to EUR 3,799 million (3,651), which is 4% higher than last year.

Demand was highest in the merchant segment, which, including both traditional merchant vessels and gas carriers, represented 40% and 35% of the order intake of equipment and services, respectively. Orders received from this segment included the strategically important contract to supply fleet operations solution to Anglo-Eastern's global fleet of more than 600 vessels, as well as multiple orders for gas solutions, power supply solutions, and service agreements for gas carriers. Activity was strong also in the cruise and ferry segment, where, in addition to several equipment orders for cruise ships, Wärtsilä was awarded a contract to supply an integrated package of products, systems, and solutions to Wasaline's new, efficient, and environmentally sustainable RoPax ferry.

Net sales increased by 18% to EUR 3,330 million (2,815) compared to the previous year. Services net sales increased by 4% to EUR 1,639 million (1,577), while equipment net sales increased by 37% to EUR 1,691 million (1,238) largely due to a significant increase in scrubber deliveries. The comparable operating result amounted to EUR 305 million (380), which represents 9.1% of net sales (13.5). The decline is largely due to charges of EUR 51 million related to cost overruns in certain gas solution project deliveries and a lower share of result from joint ventures. The comparison figure was elevated by a capital gain amounting to EUR 27 million from the divestment of the pumps business. Profitability was also affected by the higher proportional share of equipment deliveries in the net sales mix of 2019.

Wärtsilä Energy

Operating environment

Activity in the liquid and gas fuelled power plant markets was well below that of the previous year. Energy policies are being developed to drive ambitious decarbonisation targets, and utilities continue to update their investment strategies accordingly. This, combined with macroeconomic uncertainty, has slowed decision-making globally. The low number of new power plant projects resulted in a tough competitive environment. In contrast to the challenges in the equipment business, the demand for services was solid, as customers continued to see the benefit of enhancing installation reliability with long-term service agreements.

Wärtsilä's market share in the up to 500 MW market segment increased to 17% (14), while global orders for natural gas and liquid power plants decreased by 44% to 11.6 GW during the twelve-month period ending in September 2019 (15.1 GW at the end of June). Global orders include gas turbines and Wärtsilä orders with prime movers over 5 MW in size. The data is gathered from the McCoy Power Report.

Financial development

Order intake in 2019 totalled EUR 1,810 million (2,362), a decrease of 23% compared to the previous year. Book-to-bill was 0.98 (1.00). Services order intake increased by 13% to EUR 961 million (851), largely thanks to the all-time high order intake in long-term service agreements, which grew by 50% compared to the previous year. Equipment order intake decreased by 44% to EUR 849 million (1,511). The order book at the end of December declined by 17% to EUR 2,079 million (2,515).

Demand for new equipment and services was highest in Asia and the Americas. New equipment orders received during the year included a 132 MW dual-fuel power plant to improve system reliability in the Bahamas, a 200 MW dual-fuel power plant to be delivered to Cambodia to provide grid stability and to enable increasing levels of renewable energy integration into the system, as well as the first Modular Block Solution of 40 MW in Mali. Wärtsilä also received several orders for energy storage and optimisation solutions during the year, including a 100 MW/100 MWh total capacity energy storage project in South East Asia. Signed service agreements included Wärtsilä's largest ever long-term operation and maintenance agreement awarded by Energia del Pacifico for a power plant under construction in El Salvador, for which order intake will be recognised once the plant is in operation. Other important service orders consisted of an agreement to maintain Summit's 464 MW power plants in Bangladesh and a 5-year operation and maintenance agreement for a newly installed 145 MW power plant in Myanmar.

Net sales decreased by 22% to EUR 1,840 million (2,359) compared to the previous year. Services net sales increased by 2% to EUR 863 million (842), while equipment net sales decreased by 36% to EUR 977 million (1,517). The comparable operating result was EUR 152 million (197), which represents 8.3% of net sales (8.4). The comparable operating result for 2019 includes charges of EUR 101 million related to cost overruns in certain projects in the equipment business, while the comparison figure includes a charge of approximately EUR 70 million covering cost overruns and project delays in two nuclear power plant back-up genset projects.

Risks and business uncertainties

Trade tensions, geopolitical uncertainty, and a possible slowdown in the global economy are affecting investment decisions in the shipping industry, especially in the bulk carrier and container sectors. While slow economic growth is also a risk to demand development in the service markets, the capital-intensive newbuilding market is more sensitive to changes in the economic outlook. Changes in the financial landscape have resulted in challenges to the securing of financing for newbuilds. The continued oversupply in the market, together with low contracting volumes, has led to further price pressure. Shipyard consolidation among the major yards is a potential risk that might result in lower capture rates in equipment sales due to changed relationships with the shipyards. The shortage of available shipyard capacity to install and commission scrubber retrofits has resulted in delays in project deliveries. While concerns related to climate change require increasing efforts to reduce emissions within the shipping industry, uncertainties concerning developments in the regulatory environment may slow newbuild activity.

In the power generation markets, fragile economic growth, and slow decision-making related to the ongoing energy transition continue to be the primary risks for demand development. Geopolitical tensions and the implications of trade barriers are also notable challenges to the demand environment. Significant currency fluctuations can result in investment decisions being postponed in certain countries. Price pressure resulting from the prevailing competitive environment remains a risk.

Effective cyber risk management is increasingly important as cyber security has become vital to the operation and management of many safety, security, and protection systems in the shipping environment. This is also the case with the increasing importance of energy management systems as renewable energy penetration grows. Wärtsilä emphasises a holistic approach to the management of cyber and physical security risks in its internal operations and customer offerings. In its operational and governance activities, the company's cyber security team has continued to move towards compliance with the IEC62443 and ISO 27000 protocols. Such activities include cyber assurance, risk management and detection, a secure software development lifecycle, training, endpoint protection, network security, and cyber advisory services.

The Group is a defendant in a number of legal cases that have arisen out of, or are incidental to, the ordinary course of its business. These lawsuits mainly concern issues such as contractual and other liability, labour relations, property damage, and regulatory matters. The Group receives from time to time claims of different amounts and with varying degrees of substantiation. There is currently one unusually sizeable claim. It is the Group's policy to provide for amounts related to the claims, as well as for litigation and arbitration matters, when an unfavourable outcome is probable, and the amount of the loss can be reasonably estimated.

The Risks and risk management section of this annual report contains a more detailed description of Wärtsilä's risks and business uncertainties.

Shares and shareholders

During January-December, the volume of trades on Nasdaq Helsinki was 333,483,579 shares, equivalent to a turnover of EUR 3,947 million. Wärtsilä's shares are also traded on alternative exchanges, such as Turquoise, BATS CXE, and BATS BXE. The total trading volume on these alternative exchanges was 229,045,024 shares.

Wärtsilä shares on Nasdaq Helsinki

31.12.2019		Number of shares and votes	Number of shares traded 1-12/2019		
WRT1V		591 723 390	333 483 579		
1.1. - 31.12.2019		High	Low	Average ¹	Close
Share price		15.56	8.78	11.82	9.85
¹ Trade-weighted average price					
Market capitalisation		31.12.2019	31.12.2018		
MEUR		5 828	8 222		
Foreign shareholders		31.12.2019	31.12.2018		
%		53	55		

Flagging notifications

Wärtsilä was informed of the following changes in ownership during 2019:

Transaction date	Shareholder	Threshold	Direct holding, %	Total holding, %
22.2.2019	BlackRock, Inc.	Below 5%	4.94	5.35
26.2.2019	BlackRock, Inc.	Above 5%	5.07	5.42
22.3.2019	BlackRock, Inc.	Below 5%	4.82	5.38
26.4.2019	BlackRock, Inc.	Above 5%	5.02	5.18
3.5.2019	BlackRock, Inc.	Below 5%	4.95	5.18
7.5.2019	BlackRock, Inc.	Above 5%	5.00	5.23
10.5.2019	BlackRock, Inc.	Below 5%	4.98	5.23
21.5.2019	BlackRock, Inc.	Above 5%	5.02	5.16
24.5.2019	BlackRock, Inc.	Below 5%	4.97	5.16
31.5.2019	BlackRock, Inc.	Below 5%	Below 5%	Below 5%
11.6.2019	Fiskars Corporation	Below 5%	Below 5%	Below 5%

Decisions taken by the Annual General Meeting

Wärtsilä's Annual General Meeting, held on 7 March 2019, approved the financial statements and discharged the members of the Board of Directors and the company's President & CEO from liability for the financial year 2018.

The Annual General Meeting decided that the Board of Directors shall have eight members. The following were elected to the Board: Maarit Aarni-Sirviö, Kaj-Gustaf Bergh, Karin Falk, Johan Forssell, Tom Johnstone, Mikael Lilius, Risto Murto and Markus Rauramo.

The audit firm PricewaterhouseCoopers Oy was elected as the company's auditor for the year 2019.

Dividend distribution

The Annual General Meeting approved the Board of Directors' proposal to distribute a dividend of EUR 0.48 per share in two instalments. The first instalment of EUR 0.24 per share was distributed on 18 March 2019. The second instalment of EUR 0.24 per share was distributed on 27 September 2019.

Authorisation to repurchase the Company's own shares

The Board of Directors was authorised to resolve to repurchase a maximum of 57,000,000 of the Company's own shares. The authorisation to repurchase the Company's own shares shall be valid until the close of the next Annual General Meeting, however no longer than for 18 months from the authorisation of the shareholders' meeting.

Authorisation to issue shares

The Board of Directors was authorised to resolve to issue new shares or transfer shares held by the Company. The maximum number of shares to be so issued shall not exceed 57,000,000. The shares can be issued for consideration or without consideration. They can also be issued in deviation from the shareholders' pre-emptive rights by way of a directed issue if there is a weighty financial reason for the Company to do so. The authorisation for the Board of Directors to issue shares shall be valid for three years from the authorisation of the shareholders' meeting and it cancels the authorisation given by the General Meeting on 8 March 2018 to distribute the Company's own shares.

Organisation of the Board of Directors

Convening after the Annual General Meeting the Board of Directors elected Mikael Lilius as its chairman and Tom Johnstone as the deputy chairman. The Board decided to establish an Audit Committee, a Nomination Committee and a Remuneration Committee. The Board appointed from among its members the following members to the Committees:

Audit Committee: Chairman Markus Rauramo, Maarit Aarni-Sirviö, Risto Murto

Nomination Committee: Chairman Mikael Lilius, Kaj-Gustaf Bergh, Johan Forssell, Risto Murto

Remuneration Committee: Chairman Mikael Lilius, Maarit Aarni-Sirviö, Tom Johnstone

Wärtsilä's prospects

The demand for Wärtsilä's services and solutions in the coming 12 months is expected to be somewhat below that of the previous 12 months. Demand by business area is anticipated to be as follows:

- Soft in Wärtsilä Marine Business, as low vessel contracting is expected to affect equipment ordering activity.
- Soft in Wärtsilä Energy Business. While some recovery in equipment order intake is anticipated, market conditions remain challenging.

Wärtsilä's current order book for 2020 deliveries is EUR 3,571 million (3,696), comprised mainly of equipment deliveries.

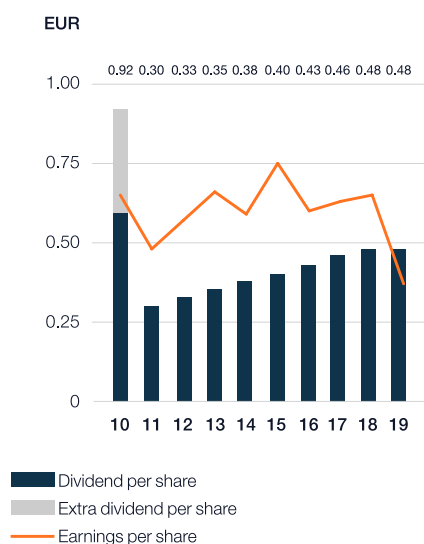
Board of Directors' dividend proposal

The Board of Directors proposes that a dividend of 0,48 euro per share be paid for the financial year 2019. The parent company's distributable funds total EUR 993,534,893.15, which includes EUR 239,590,080.77 in net profit for the year. There are 591,723,390 shares with dividend rights. The dividend shall be paid in two instalments.

The first instalment of EUR 0,24 per share shall be paid to the shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the dividend record date of 9 March 2020. The payment day proposed by the Board for this instalment is 16 March 2020.

The second instalment of EUR 0,24 per share shall be paid in September 2020. The second instalment of the dividend shall be paid to shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the dividend record day, which, together with the payment day, shall be decided by the Board of Directors in its meeting scheduled for 8 September 2020. The dividend record day for the second instalment as per the current rules of the Finnish book-entry system would be 10 September 2020 and the dividend payment day 17 September 2020.

Dividend



The free share issue approved by Wärtsilä Corporation's Annual General Meeting on 8 March 2018 increased the total number of Wärtsilä shares to 591,723,390. Figures for the comparison periods 2010–2017 have been adjusted to reflect the increased number of shares.

Five years in figures

Wärtsilä provides certain financial performance measures, which are accounting measures that are not defined by IFRS. These alternative performance measures, such as comparable operating result, comparable adjusted EBITA, cash flow from operating activities, and gearing, are followed and used by management to measure the Group's performance and financial position. In addition, Wärtsilä's targets of financial performance are linked to for example comparable operating result and gearing. Thus, these alternative performance measures provide useful information to the capital markets.

The alternative performance measures should not be evaluated in isolation from the IFRS measures. The alternative performance measure calculation definitions are disclosed in section Calculations of financial ratios.

MEUR	Restated				
	2019	2018	2017*	2016	2015
Net sales	5 170	5 174	4 911	4 801	5 029
of which outside Finland	% 98.5	98.9	97.7	97.5	97.8
Exports from Finland	1 933	2 145	1 953	1 804	1 936
Personnel on average	19 110	18 899	17 866	18 332	18 565
of which in Finland	3 868	3 766	3 521	3 482	3 580
Order book	5 878	6 166	5 100	4 696	4 882
From the consolidated statement of income					
Depreciation, amortisation and impairment	180	130	134	138	124
Share of result of associates and joint ventures	-9	13	13	14	17
Comparable operating result	457	577	576	583	612
as a percentage of net sales	% 8.8	11.2	11.7	12.1	12.2
Operating result	362	543	538	532	587
as a percentage of net sales	% 7.0	10.5	11.0	11.1	11.7
Comparable adjusted EBITA	498	621	612	618	643
as a percentage of net sales	% 9.6	12.0	12.5	12.9	12.8
Financial income and expenses	-47	-40	-47	-53	-34
Profit before taxes	315	502	491	479	553
as a percentage of net sales	% 6.1	9.7	10.0	10.0	11.0
Profit for the financial period from the continuing operations	218	386	375	357	429
Profit for the financial period from the discontinued operations	-	-	-	-	22
Net profit for the financial period	218	386	375	357	451
as a percentage of net sales	% 4.2	7.5	7.6	7.4	9.0
From the consolidated statement of financial position					
Non-current assets	2 518	2 369	2 285	2 116	2 215
Current assets	3 797	3 690	3 363	3 275	3 374
Assets held for sale	82	-	-	-	-
Total equity attributable to equity holders of the parent company	2 396	2 418	2 352	2 288	2 201
Non-controlling interests	14	14	24	34	41
Interest-bearing debt	1 096	823	619	629	724
Non-interest-bearing liabilities	2 824	2 804	2 653	2 441	2 623
Liabilities directly attributable to assets held for sale	68	-	-	-	-
Total equity and liabilities	6 398	6 059	5 648	5 391	5 589
From the consolidated statement of cash flows					
Cash flow from operating activities	232	470	430	613	255
Cash flow from investing activities	-95	-240	-235	-126	-288
Cash flow from financing activities	-256	-118	-278	-339	-210
Gross capital expenditure	122	306	255	146	346

as a percentage of net sales	%	2.4	5.9	5.2	3.0	6.9
Research and development expenditure		164	165	141	131	132
as a percentage of net sales	%	3.2	3.2	2.9	2.7	2.6
Dividends paid		284**	284	272	256	237
Financial ratios						
Earnings per share (EPS), basic and diluted***	EUR	0.37	0.65	0.63	0.60	0.75
Dividend per share***	EUR	0.48**	0.48	0.46	0.43	0.40
Dividend per earnings	%	130.8**	73.7	70.8	72.8	53.3
Interest coverage		7.7	10.8	11.8	18.6	15.9
Return on investment (ROI)	%	11.5	18.1	18.5	17.1	21.0
Return on equity (ROE)	%	9.0	16.1	16.0	15.6	20.2
Solvency ratio	%	40.8	44.4	46.3	47.6	44.6
Gearing****		0.30	0.14	0.10	0.07	0.17
Equity per share***	EUR	4.05	4.09	3.97	3.87	3.72
Working capital (WCAP)	EUR	732	581	563	490	543

* Figures in the comparison period 2017 have been restated due to the adoption of IFRS 15.

** Proposal of the Board of Directors.

*** Share issue without payment (share split) approved by Wärtsilä Corporation's Annual General Meeting on 8 March 2018 increased the total number of Wärtsilä shares to 591,723,390. Figures in the comparison periods have been restated accordingly.

**** Includes the cash and cash equivalents pertaining to assets held for sale.

Quarterly figures

MEUR	Restated								
	10-12/ 2019	7-9/ 2019	4-6/ 2019	1-3/ 2019	10-12/ 2018	7-9/ 2018	4-6/ 2018	1-3/ 2018	10-12/ 2017**
Order intake									
Wärtsilä Marine Business*	951	705	936	922	1 031	1 009	1 027	877	
Wärtsilä Energy Business*	604	274	441	494	843	363	526	630	
Total	1 555	979	1 377	1 416	1 874	1 372	1 553	1 507	1 514
Order book at the end of the financial period									
Wärtsilä Marine Business*	3 799	3 895	3 974	3 861	3 651	3 536	3 244	2 818	
Wärtsilä Energy Business*	2 079	2 399	2 496	2 469	2 515	2 382	2 660	2 672	
Total	5 878	6 294	6 470	6 330	6 166	5 918	5 904	5 490	5 100
Net sales									
Wärtsilä Marine Business*	1 020	776	801	733	831	680	685	619	
Wärtsilä Energy Business*	664	342	416	418	701	650	561	447	
Total	1 684	1 118	1 217	1 151	1 532	1 330	1 246	1 066	1 441
Share of result of associates and joint ventures	-2	-6	-1		3	3	4	3	6
Comparable adjusted EBITA	213	49	123	113	237	152	134	98	250
as a percentage of net sales	12.6	4.4	10.1	9.8	15.4	11.5	10.7	9.2	17.4
Depreciation, amortisation and impairment	-39	-58	-42	-41	-37	-31	-31	-30	-42

Purchase price allocation amortisation	-10	-10	-10	-11	-11	-11	-11	-10	-10
Comparable operating result	202	39	113	102	226	141	123	88	241
as a percentage of net sales	12.0	3.5	9.3	8.9	14.7	10.6	9.8	8.3	16.7
Items affecting comparability, total	-39	-28	-17	-11	-20		-12	-3	-19
Operating result	164	11	96	91	206	141	111	85	222
as a percentage of net sales	9.7	1.0	7.9	7.9	13.4	10.6	8.9	8.0	15.4
Financial income and expenses	-11	-11	-13	-13	-12	-11	-8	-9	-10
Profit before taxes	153		83	78	194	130	102	76	211
Income taxes	-51	-5	-21	-19	-41	-29	-28	-19	-47
Profit for the financial period	102	-5	62	59	153	101	75	57	165
Earnings per share (EPS), basic and diluted, EUR	0.17	-0.01	0.11	0.10	0.25	0.17	0.13	0.10	0.28
Gross capital expenditure	44	24	32	23	48	26	194	37	79
Investments in securities and acquisitions	2		4		-1		177	20	45
Cash flow from operating activities	295	-61	-37	35	349	122	41	-42	276
Working capital (WCAP) at the end of the financial period	732	870	784	656	581	782	790	726	563
Personnel at the end of the financial period									
Wärtsilä Marine Business*	13 460	13 530	13 598	13 467	13 582	13 727	13 609	12 618	
Wärtsilä Energy Business*	5 335	5 488	5 641	5 758	5 712	5 692	5 622	5 564	
Total	18 795	19 018	19 239	19 225	19 294	19 420	19 231	18 182	18 065

* Segment figures in the comparison period 2018 have been restated to reflect the new organisational structure.

** Figures in the comparison period 2017 have been restated due to the adoption of IFRS 15.

Calculations of financial ratios

Return on investment (ROI)

Profit before taxes + interest and other financial expenses

----- x 100
Total equity and liabilities – non-interest-bearing liabilities – provisions, average over the financial period

Return on equity (ROE)

Profit for the financial period

----- x 100
Equity, average over the financial period

Gross capital expenditure

Investments in securities and acquisitions + investments in intangible assets and property, plant and equipment

Net interest-bearing debt

Total of non-current and current interest-bearing debt + total of non-current and current lease liabilities – interest-bearing receivables – cash and cash equivalents

Interest coverage

Profit before taxes + depreciation, amortisation and impairment + interest and other financial expenses

Interest and other financial expenses

Solvency ratio

Equity

Total equity and liabilities – advances received x 100

Gearing

Interest-bearing liabilities – cash and cash equivalents

Equity

Earnings per share (EPS), basic and diluted

Profit for the financial period attributable to equity holders of the parent company

Adjusted number of shares, average over the financial period

Equity per share

Equity attributable to equity holders of the parent company

Adjusted number of shares at the end of the financial period

Dividend per share

Dividends paid for the financial period

Adjusted number of shares at the end of the financial period

Dividend per earnings

Dividend per share

Earnings per share (EPS), basic and diluted x 100

Effective dividend yield

Dividend per share

Adjusted share price at the end of the financial period x 100

Price/earnings (P/E)

Adjusted share price at the end of the financial period

Earnings per share (EPS), basic and diluted

Price/carrying amount per share (P/BV)

Adjusted share price at the end of the financial period

Equity per share

Working capital (WCAP)

(Inventories + trade receivables + current tax receivables + other non-interest-bearing receivables)

– (trade payables + advances received + pension obligations + provisions + current tax liabilities + other non-interest-bearing liabilities – dividend payable)

Order book

The presentation in value of orders that are placed by customers but not yet delivered. For service agreements, only the expected net sales for the next 24 months are included in the order book.

Order intake

Total amount of orders received during the financial period to be delivered either during the current financial period or thereafter.

Operating result

Net sales + other operating income – expenses – depreciation, amortisation and impairment +/- share of result of associates and joint ventures

Comparable adjusted EBITA

Operating result – items affecting comparability – purchase price allocation amortisation

Comparable operating result

Operating result – items affecting comparability

Items affecting comparability

Certain income and expenses are presented as items affecting comparability when they have significant impact on the consolidated statement of income. Items affecting comparability consist of income and expenses, which result from restructuring activities aiming to adjust the capacity of Wärtsilä's operations. They may also include other income and expenses incurred outside Wärtsilä's normal course of business, such as impairment charges, acquisition related costs, settlements recorded as a result of legal proceedings with third parties or unforeseen obligations from earlier discontinued businesses.

Financial statements

Consolidated financial statements

Consolidated statement of income

MEUR	2019	2018	Note
Net sales	5 170	5 174	<u>1</u> <u>5</u>
Change in inventories of finished goods & work in progress	137	64	
Work performed by the Group and capitalised	18	14	
Other operating income	67	80	<u>6</u>
Material and services	-3 003	-2 852	<u>7</u>
Employee benefit expenses	-1 260	-1 175	<u>8</u>
Depreciation, amortisation and impairment	-180	-130	<u>9</u>
Other operating expenses	-578	-648	<u>10</u>
Share of result of associates and joint ventures	-9	13	<u>17</u>
Operating result	362	543	
as a percentage of net sales	7.0	10.5	
Financial income	27	24	<u>11</u>
Financial expenses	-74	-65	<u>11</u>
Profit before taxes	315	502	
Income taxes	-97	-116	<u>12</u>
Profit for the financial period	218	386	
Attributable to:			
equity holders of the parent company	217	386	<u>13</u>
non-controlling interests	1	1	
	218	386	
Earnings per share attributable to equity holders of the parent company (basic and diluted):			
Earnings per share (EPS), basic and diluted, EUR	0.37	0.65	<u>13</u>

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

Consolidated statement of comprehensive income

MEUR	2019	2018	Note
Profit for the financial period	218	386	
Other comprehensive income, net of taxes:			
Items that will not be reclassified to the statement of income			
Remeasurements of defined benefit liabilities	-20	-3	
Tax on items that will not be reclassified to the statement of income	5		
Total items that will not be reclassified to the statement of income	-16	-4	
Items that may be reclassified subsequently to the statement of income			
Exchange rate differences on translating foreign operations			
for equity holders of the parent company	42	-23	
for non-controlling interests		-1	
Associates and joint ventures, share of other comprehensive income	-1	-1	
Cash flow hedges			
measured at fair value	4	-17	26
transferred to the statement of income	19	-8	
Tax on items that may be reclassified to the statement of income			
Cash flow hedges			
measured at fair value		3	
transferred to the statement of income	-4	2	
Total items that may be reclassified to the statement of income	60	-45	
Other comprehensive income for the financial period, net of taxes	45	-48	
Total comprehensive income for the financial period	263	338	
Total comprehensive income attributable to:			
equity holders of the parent company	262	338	
non-controlling interests	1		
	263	338	

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

Consolidated statement of financial position

MEUR	31.12.2019	31.12.2018	Note
Assets			
Non-current assets			
Goodwill	1 380	1 355	<u>14</u>
Intangible assets	397	392	<u>14</u>
Property, plant and equipment	307	324	<u>15</u>
Right-of-use assets	185		<u>16</u>
Investments in associates and joint ventures	42	66	<u>17</u>
Other investments	18	16	<u>18</u>
Interest-bearing investments	1	3	<u>18</u>
Deferred tax assets	155	129	<u>24</u>
Trade receivables	19	49	<u>18</u>
Other receivables	15	34	<u>21</u>
Total non-current assets	2 518	2 369	
Current assets			
Inventories	1 365	1 165	<u>19</u>
Trade receivables	1 237	1 222	<u>18</u> <u>20</u>
Current tax receivables	42	31	
Contract assets	515	557	<u>20</u>
Other receivables	281	228	<u>21</u>
Cash and cash equivalents	358	487	<u>22</u> <u>23</u>
Total current assets	3 797	3 690	
Assets held for sale	82		<u>4</u>
Total assets	6 398	6 059	
Equity and liabilities			
Equity			
Share capital	336	336	<u>26</u>
Share premium	61	61	<u>26</u>
Translation differences	-114	-155	<u>26</u>
Fair value reserve	-11	-31	<u>26</u>
Remeasurements of defined benefit liabilities	-55	-39	<u>25</u>
Retained earnings	2 178	2 245	
Total equity attributable to equity holders of the parent company	2 396	2 418	
Non-controlling interests	14	14	
Total equity	2 410	2 432	
Liabilities			

Non-current liabilities					
Interest-bearing debt	997	748	<u>18</u>	<u>23</u>	<u>28</u>
Deferred tax liabilities	83	99			<u>24</u>
Pension obligations	155	149			<u>25</u>
Provisions	45	54			<u>27</u>
Contract liabilities	38	41			<u>20</u>
Other liabilities	1	1			<u>29</u>
Total non-current liabilities	1 317	1 092			
Current liabilities					
Interest-bearing debt	99	74	<u>18</u>	<u>23</u>	<u>28</u>
Provisions	278	251			<u>27</u>
Trade payables	624	596		<u>18</u>	<u>28</u>
Current tax liabilities	100	81			
Contract liabilities	880	888			<u>20</u>
Other liabilities	622	645			<u>29</u>
Total current liabilities	2 603	2 535			
Total liabilities	3 920	3 627			
Liabilities directly attributable to assets held for sale	68				<u>4</u>
Total equity and liabilities	6 398	6 059			

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

Consolidated statement of cash flows

MEUR	2019	2018	Note
Cash flow from operating activities:			
Profit for the financial period	218	386	
Adjustments for:			
Depreciation, amortisation and impairment	180	130	<u>9</u>
Financial income and expenses	47	39	<u>11</u>
Gains and losses on sale of intangible assets and property, plant and equipment and other changes	-15	-26	
Share of result of associates and joint ventures	9	-13	<u>17</u>
Income taxes	97	116	<u>12</u>
Other non-cash flow adjustments	3	-7	
Cash flow before changes in working capital	540	625	
Changes in working capital:			
Receivables, non-interest-bearing, increase (-) / decrease (+)	9	-22	
Inventories, increase (-) / decrease (+)	-213	-130	<u>19</u>
Liabilities, non-interest-bearing, increase (+) / decrease (-)	74	117	
Changes in working capital	-130	-35	
Cash flow from operating activities before financial items and taxes	410	589	
Financial items and taxes:			
Interest income	4	6	
Interest expenses	-13	-14	
Other financial income and expenses	-27	-7	
Income taxes paid	-141	-104	
Financial items and paid taxes	-178	-119	
Cash flow from operating activities	232	470	
Cash flow from investing activities:			
Acquisitions	-4	-191	<u>2</u>
Investments in associates and joint ventures		-1	<u>17</u>
Other investments	-2	-3	<u>18</u>
Investments in property, plant and equipment and intangible assets	-116	-110	<u>14</u> <u>15</u>
Reduction of share capital in associates and joint ventures		13	
Proceeds from sale of property, plant and equipment and intangible assets	25	11	<u>14</u> <u>15</u>
Proceeds from sale of shares in subsidiaries	1	41	<u>3</u>
Loan receivables, increase (-) / decrease (+), and other changes		1	
Cash flow from investing activities	-95	-240	
Cash flow after investing activities	137	230	
Cash flow from financing activities:			
Proceeds from non-current debt	150	279	
Repayments and other changes in non-current debt	-105	-84	<u>28</u>

Loan receivables, increase (-) / decrease (+)	2	-4
Current loans, increase (+) / decrease (-)	-18	-35
Dividends paid	-284	-274
Cash flow from financing activities	-256	-118
Change in cash and cash equivalents, increase (+) / decrease (-)	-119	112
Cash and cash equivalents at the beginning of the financial period	487	379
Exchange rate changes		-5
Cash and cash equivalents at the end of the financial period*	369	487

* Cash and cash equivalents at the end of the financial period include the cash and cash equivalents pertaining to assets held for sale.

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

Consolidated statement of changes in equity

MEUR	Total equity attributable to equity holders of the parent company							Non-controlling interests	Total equity
	Share capital	Share premium	Translation difference	Fair value reserve	Remeasurements of defined benefit liabilities	Retained earnings	Total		
Equity on 1 January 2018	336	61	-132	-10	-38	2 135	2 352	24	2 376
Translation differences			-24				-24	-1	-25
Cash flow hedges									
net change in fair value, net of taxes				-14			-14		-14
transferred to the statement of income, net of taxes				-6			-6		-6
Defined benefit plans					-3		-3		-3
Other changes					3	-3			
Other comprehensive income			-24	-20	-1	-3	-47	-1	-48
Profit for the financial period						386	386	1	386
Total comprehensive income for the financial period			-24	-20	-1	383	338		338
Total transactions with the owners of the company									
dividends paid						-272	-272	-3	-275
non-controlling interests in disposed subsidiaries								-7	-7
Equity on 31 December 2018	336	61	-155	-31	-39	2 245	2 418	14	2 432

MEUR	Total equity attributable to equity holders of the parent company							Non-controlling interests	Total equity
	Share capital	Share premium	Translation difference	Fair value reserve	Remeasurements of defined benefit liabilities	Retained earnings	Total		
Equity on 1 January 2019	336	61	-155	-31	-39	2 245	2 418	14	2 432
Translation differences			41				41		41
Cash flow hedges									
net change in fair value, net of taxes				4			4		4
transferred to the statement of income, net of taxes				16			16		16
Defined benefit plans					-16		-16		-16
Other comprehensive income			41	20	-16		45		45
Profit for the financial period						217	217	1	218
Total comprehensive income for the financial period			41	20	-16	217	262	1	263
Total transactions with the owners of the company									
dividends paid						-284	-284	-1	-285
Equity on 31 December 2019	336	61	-114	-11	-55	2 178	2 396	14	2 410

Additional information on share capital, share premium, translation difference and fair value reserve is presented in Note 26. Equity.

Accounting principles for the consolidated financial statements

Basic information

Wärtsilä Corporation is a Finnish listed company organised under the laws of Finland and domiciled in Helsinki. The address of its registered office is Hiililaiturinkuja 2, 00180 Helsinki. Wärtsilä Corporation is the ultimate parent company in the Wärtsilä Group.

Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets. By emphasising sustainable innovation, total efficiency and data analytics, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.

In 2019, Wärtsilä's net sales totalled EUR 5.2 billion with approximately 19,110 employees. The company has operations in over 200 locations in more than 80 countries around the world. Wärtsilä is listed on Nasdaq Helsinki.

These consolidated financial statements were authorised for release by the Board of Directors of Wärtsilä Corporation on 29 January 2020, after which, in accordance with the Finnish Corporate Act, the shareholders have a right to approve or reject the financial statements in the Annual General Meeting. The Annual General Meeting also has a possibility to decide upon changes in the financial statements.

Basis of preparation

The consolidated financial statements are prepared in accordance with the International Financial Reporting Standards (IFRS) by applying IAS and IFRS standards and their SIC and IFRIC interpretations, which were in force on 31 December 2019. International Financial Reporting Standards refer to the standards, and their interpretations, approved for application in the EU in accordance with the procedures stipulated in the EU's regulation (EC) No. 1606/2002 and embodied in Finnish accounting legislation and the statutes enacted under it. The notes to the consolidated financial statements also comply with the Finnish accounting and corporate legislation.

Reporting is based on the historical cost convention. Exceptions are the financial assets and liabilities at fair value through the statement of income, the assets and liabilities arising from pension plans, hedged items under fair value hedging, and the cash- and share-settled share-based payment transactions which are measured at fair value. The figures are in millions of euros except notes 32. Related party disclosures and 34. Auditors' fees and services, which are presented in thousands of euros.

IFRS amendments

In 2019, the Group has adopted the following new and amended standards and interpretation issued by the IASB.

IFRS 16 Leases (effective for financial periods beginning on or after 1 January 2019) addresses the definition, recognition and measurement of lease agreements and notes related to leases. The standard replaced IAS 17 Leases.

The financial leases identified and capitalised according to IAS 17 before the financial period 2019 are classified as right-of-use (ROU) assets and the corresponding lease liability has been recognised. The lessor accounting remains similar to IAS 17, lessors continue to classify leases as finance leases or operating leases.

IFRS 16 introduces a single, on-balance sheet lease accounting model for lessees. Under IFRS 16, the companies are required to recognise right-of-use assets (ROU) and lease liabilities in the statement of financial position. These are initially measured at the present value of unavoidable future lease payments. The right-of-use assets are

depreciated and interest on lease liabilities recognised in the statement of income over the lease term. Whether a contract contains a lease is determined based on whether the customer has the right to control the use of an identified asset for a period of time. Exemptions regarding recognition of leases apply to short-term leases with lease period less than 12 months and to assets of low value.

Wärtsilä Group's capitalised lease agreements consist mainly of office premise and machinery and equipment lease agreements. Based on the applied accounting policy, the Group recognises the lease agreements as lease liabilities and as ROU assets in its statement of financial position. Lease payments are presented as repayments of liabilities and related interest expenses. The lease payments are presented in the cash flow from financing activities and the interest related to leases are presented in the cash flow from operating activities. Lease payments related to short-term leases, low-value assets and variable payments are presented in the cash flow from operating activities.

The Group applied the modified approach in the transition. The Group applies the two available exemptions, which relate to either short-term contracts, in which the lease term is less than 12 months, or low-value assets, which are expensed to other operating expenses. Based on the Group's calculation, the net present value of the capitalised lease liability amounts to EUR 212 million according to the following bridge calculation:

MEUR	
Nominal amount of rents according to leasing contracts on 31 December 2018	284
Variable lease payments	-23
Residual value	-3
Expenses relating to short-term leases and leases of low-value assets	-15
Leases not yet commenced to which Wärtsilä is committed	-3
Nominal amount of lease liability on 1 January 2019	240
Present value	212

The nominal lease liability is initially measured at the present value of the lease payments. The lease payments exclude variable elements. Variable lease payments not included in the initial measurement of the lease liability are recognised directly in the statement of income. The lease term is the non-cancellable period of the lease plus period covered by an option to extend or option to terminate if the lessee is reasonably certain to exercise the extension option. Management judgement based on realistic estimates is used when determining the lease term for artificially short-term and leasing agreements with non-fixed terms. At transition, the lease payments were discounted by using the Group's incremental borrowing rate. The incremental borrowing rates used are the sum of relevant interbank rates and average margin of group loan portfolio and are currency specific.

The Group recognised at transition ROU assets amounting to EUR 213 million, non-current lease liabilities amounting to EUR 169 million, and current lease liabilities amounting to EUR 43 million. The lease expense reduction during 2019 arising from the lease agreements amounted to EUR 54 million and the increase of interest expense to EUR 5 million. The total depreciation expense for the financial period 2019 in the statement of income increased by EUR 49 million due to the ROU asset depreciations. The comparison figures have not been restated.

Condensed statement of financial position

MEUR	31.12.2018	IFRS 16 adjustment	1.1.2019
Non-current assets			
Intangible assets	1 747		1 747
Property, plant and equipment	324	-2	321
Right-of-use assets		215	215
Investments in associates and joint ventures	66		66
Other investments	16		16

Deferred tax assets	129		129
Other receivables	86		86
Total non-current assets	2 369	213	2 581
Current assets			
Inventories	1 165		1 165
Other receivables	2 038		2 038
Cash and cash equivalents	487		487
Total current assets	3 690	-1	3 690
Total assets	6 059	212	6 271
Equity			
Share capital	336		336
Other equity	2 082		2 082
Total equity attributable to equity holders of the parent company	2 418		2 418
Non-controlling interests	14		14
Total equity	2 432		2 432
Non-current liabilities			
Interest-bearing debt	748	169	917
Deferred tax liabilities	99		99
Other liabilities	245		245
Total non-current liabilities	1 092	169	1 261
Current liabilities			
Interest-bearing debt	74	43	117
Other liabilities	2 461		2 461
Total current liabilities	2 535	43	2 578
Total liabilities	3 627	212	3 839
Total equity and liabilities	6 059	212	6 271

Amendments to **IAS 28** by **Long-term Interests in Associates and Joint Ventures** (effective for financial periods beginning on or after 1 January 2019). The amendments clarify that IFRS 9 Financial Instruments is applied to the accounting for long-term interest in an associate or joint venture to which the equity method is not applied. The amendments have no impact on the consolidated financial statements.

Amendment to **IAS 19** by **Plan Amendment, Curtailment or Settlement** (effective for financial periods beginning on or after 1 January 2019). This amendment clarifies the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendment specifies that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to use updated assumptions to determine the current service cost and net interest. The amendment does not have a material impact on the consolidated financial statements.

Amendments to **IFRS 9** by **Prepayment Features with Negative Compensation** (effective for financial periods beginning on or after 1 January 2019). Prepayment Features with Negative Compensation amends the existing requirements in IFRS 9 regarding termination rights in order to allow measurement at amortised cost (or, depending

on the business model, at fair value through other comprehensive income) even in the case of negative compensation payments. Without the amendment these financial assets would have had to be measured at FVPL. The amendments have no impact on the consolidated financial statements.

IFRIC 23 Uncertainty over Income Tax Treatments (effective for financial periods beginning on or after 1 January 2019). This interpretation addresses the accounting for income taxes when tax treatments involve uncertainty that affects the application of IAS 12. The key matter is whether the tax authority will accept the chosen tax treatment. When considering this, the assumption is that tax authorities will have full knowledge of all relevant information in assessing the proposed tax treatment. The interpretation does not have any significant impact on the consolidated financial statements.

Annual improvements to IFRS Standards 2015-2017 Cycle: The improvements that include smaller amendments to four standards do not have an impact on the consolidated financial statements.

Management judgement and use of estimates

The preparation of the financial statements in accordance with the IFRS requires management to make judgements, estimates and assumptions that affect the valuation of the reported assets and liabilities and other information, such as contingent assets and liabilities and the recognition of income and expenses in the statement of income. Although these estimates and assumptions are based on management's best knowledge of current events and actions, actual results may differ from the estimates.

For Wärtsilä, the most significant judgements, estimates, and assumptions made by the management relate to revenue recognition, especially to project estimates for long-term projects and agreements, assumptions used in impairment testing, the valuation of trade receivables and inventories, determining the length of lease terms, estimates and assumptions used in defined pension benefit obligations, recognition of warranty provisions and provisions for legal cases, and uncertain tax positions. In addition, accounting for business combinations may require significant management judgement.

Assessing whether or not it is probable that the consideration from contracts with customers will be collected requires judgement, and might impact the timing and amount of revenue recognition.

Revenue from certain projects and long-term agreements is recognised over time according to the input method when the profit on the project or agreement can be reliably determined. The progress and the profitability are based on the management's estimates, which require significant judgement concerning the stage of completion, cost to complete, and time of completion. These estimates are reviewed regularly. Recognised revenue and costs recorded are adjusted during the project when assumptions concerning the outcome of the entire project are updated. Changes in assumptions relate to changes in the project's or agreement's schedule, scope of supply, technology, costs, and any other relevant factors.

Establishing whether distinct goods or services are considered as being separate performance obligations requires judgement, and might impact the timing and amount of revenue recognition.

Project business contracts usually involve elements of variable consideration. At each reporting date, management reassesses the transaction price, which requires significant judgement as it affects the timing of the revenue recognition. The valuation of accounts receivables also includes estimates mainly concerning the recoverability of receivables.

Determining whether different contracts with the same customer are accounted for as one contract involves the use of judgement, as it requires assessment of whether the contracts are negotiated together or linked in any other way. The timing and amount of revenue recognition can vary depending on whether two contracts are accounted for separately, or as one single arrangement.

Warranty provisions are recorded on the recognition of revenue. The provision is based on the accumulated experience of the level of warranty needed to manage future and current cost claims. Products can contain new

and complex technology that can affect warranty estimates with the result that earlier recognised provisions are not always sufficient.

Accounting for the business combinations may require estimates of the fair value of acquired assets and the expected amount of realised contingent consideration. In addition, the recoverable amounts of goodwill are determined for all cash generating units annually, or more often if there is an indication of an impairment, where its value in use is determined. The value in use is determined using estimates of future market development, such as growth and profitability, as well as other significant factors. The most important factors underlying such estimates are the net sales growth in the market area, the operating margin, the useful life of the assets, future investment needs, and the discount rate. Changes in these assumptions can significantly affect the expected future cash flows.

The Group is a defendant in several legal cases arising from its business operations. A provision for a court case is recorded when an unfavourable result is probable, and the loss can be determined with reasonable certainty. The final result can differ from these estimates.

Estimates of tax liabilities and receivables relate mainly to the expected result of ongoing tax audits, and recognition of deferred tax receivables from tax losses. Deferred tax assets on unused tax losses and other temporary differences are recognised to the extent it is probable that taxable profit is available.

Estimates of pension obligations regarding defined benefit plans are based on actuarial estimates of factors including future salary increases, discount rates, and return on plan assets. Changes in these assumptions can significantly affect the Group's pension obligations and pension costs.

Principles of consolidation

Subsidiaries

The consolidated financial statements include the parent company Wärtsilä Corporation and all subsidiaries over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. When the Group has less than a majority of voting or similar rights in an entity, the Group considers all relevant facts and circumstances in assessing whether it has power over an entity, including the contractual arrangements, voting rights, and potential voting rights. The Group reassesses whether or not it controls an entity if facts and circumstances indicate that there are changes to the elements of control.

Business combinations

Acquired and established companies are accounted for using the acquisition method. Accordingly, the purchase price and the acquired company's identifiable assets, liabilities and contingent liabilities are measured at fair value on the date of acquisition. In the acquisition of additional interest, where the Group already has control, the non-controlling interest is measured either at fair value or at the non-controlling interests' proportionate share of the identifiable net assets. The difference between the purchase price, possible equity belonging to the non-controlling interests and the acquired company's net identifiable assets, liabilities and contingent liabilities measured at fair value is goodwill. Goodwill is tested for impairment at least annually. The purchase price includes the consideration paid, measured at fair value. The consideration does not include transaction costs, which are recognised in the statement of income. The transaction costs are expensed in the same financial period in which they occur, except the costs resulting from issued debt or equity instruments.

The acquired subsidiaries are included in the consolidated financial statements from the day the Group has control and disposed subsidiaries until the control ends. All intragroup transactions, dividend distributions, receivables and liabilities, as well as unrealised margins, are eliminated in the consolidated financial statements. In the consolidated statements of income and comprehensive income, non-controlling interests have been separated from the profit and the total comprehensive income for the financial period. In the consolidated statement of financial position, non-controlling interests are shown as a separate item under equity.

Any contingent consideration (additional purchase price) related to the combination of businesses is measured at fair value on the date of acquisition. It is classified either as a liability or equity. Contingent consideration classified as a liability is measured at fair value on the last day of each financial period, and the resulting loss or gain is recognised through the statement of income. Contingent consideration classified as equity is not remeasured.

The financial information from subsidiaries in countries with hyperinflation are adjusted according to IAS 29, when the impact of the hyperinflation is considered material for the consolidated financial statements.

Associated companies and joint ventures

Associated companies are all entities over which the Group has significant influence but not control or joint control. This is generally the case where the Group holds between 20% and 50% of the voting rights.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is established by contractual agreement.

Associated companies and joint ventures are included in the consolidated financial statements using the equity method from the date the Group's significant influence or joint control commences until the date it ceases. Investments in associates are initially recorded at cost, and the carrying amount is increased or decreased according to the Group's share of changes in the net assets of the associate after the date of the acquisition. The Group's share of the associated company's or joint venture's profit for the financial period are shown as a separate item before the Group's operating result, on the line Share of result of associates and joint ventures. The Group's share of the associated company's or joint venture's changes recorded in other comprehensive income is recorded in the Group's other comprehensive income. Wärtsilä's proportion of the associated company's or joint venture's post-acquisition accumulated equity is included in the Group's equity. If the Group's share of the associated company's or joint venture's losses exceeds its interest in the company, the carrying amount is written down to zero. After this, losses are only recognised if the Group has incurred obligations from the associated company or joint venture.

The accumulated exchange rate differences arising from the consolidation of associated companies and joint ventures, which are recorded in equity, are recognised in the statement of income as part of the gain or loss when change in ownership occurs.

Non-current assets held for sale and discontinued operations

Non-current assets and assets and liabilities related to discontinued operations are classified as held for sale if their carrying amounts are expected to be recovered primarily through sale rather than through continuing use. Classification as held for sale requires that the following criteria are met; the sale is highly probable, the asset is available for immediate sale in its present condition subject to usual and customary terms, the management is committed to the sale, and the sale is expected to be completed within one year from the date of classification.

Prior to classification as held for sale, the assets or assets and liabilities related to a disposal group in question are measured according to the respective IFRS standards. From the date of classification, non-current assets held for sale are measured at the lower of the carrying amount and the fair value less costs to sell, and the recognition of depreciation and amortisation is discontinued. A discontinued operation is a component of an entity that either has been disposed of, or is classified as held for sale, and represents a separate major line of business or geographical area of operations, is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or is a subsidiary acquired exclusively with a view to resale.

The result from the discontinued operations is shown separately in the consolidated statement of income and the comparison figures are restated accordingly. Non-current assets held for sale are presented in the statement of financial position separately from other items. The comparison figures for the statement of financial position are not restated.

Translating the transactions in foreign currencies

The items included in the financial statements are initially recognised in the functional currency, which is defined for each Group company based on its primary economic environment. The presentation currency of the consolidated financial statements is the euro, which is also the functional and presentation currency of Wärtsilä Corporation.

Foreign subsidiaries

The income and expenses for statements of income and statements of comprehensive income of foreign subsidiaries are translated into euros at the quarterly average exchange rates. Statements of financial position are translated into euros at the exchange rates prevailing at the end of the financial period. The translation of the profit for the financial period and other comprehensive income using different exchange rates in the statement of comprehensive income and the statement of financial position causes translation differences, which are recognised in equity and in other comprehensive income as change. Translation differences of foreign subsidiaries' acquisition cost eliminations and post-acquisition profits and losses are recognised in other comprehensive income and are presented as a separate item in equity. The goodwill generated in the acquisition of foreign entities and their fair value adjustments of assets and liabilities are considered as assets and liabilities of foreign entities, which are translated into euros using the exchange rates prevailing at the end of the financial period. When a foreign subsidiary is sold, the accumulated exchange rate differences recorded in the equity related to the subsidiary are recognised in the statement of income as a part of the gain or loss on sale.

Transactions and balances in foreign currencies

Transactions denominated in a foreign currency are translated into the functional currency using the exchange rate prevailing at the dates of the transactions. Receivables and liabilities are translated at the exchange rate prevailing at the end of the financial period. Exchange rate gains and losses related to trade receivables and liabilities are reported on the applicable line in the statement of income and are included in the operating result. Exchange rate differences related to financial assets and financial liabilities are reported as financial items in the statement of income, except exchange rate differences related to non-current debt that is part of the Group's net investment in a subsidiary. Those are recognised in other comprehensive income and reported as translation differences in equity.

Net sales and revenue recognition

Revenue is presented net of indirect sales taxes, penalties and discounts. Revenue is recognised when control of the goods or services is transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods and services. The transaction price may include variable considerations, such as penalties, performance bonuses and discounts. Revenue recognised by the reporting date corresponds to the benefit of the service provided by Wärtsilä to the customer.

Revenue from contracts with customers is derived from four main revenue types. All revenue types are represented within both reportable segments, Wärtsilä Marine Business and Wärtsilä Energy Business.

Product sales consist of sales of spare parts and standard equipment, for which the revenue is recognised at a point in time when the control of the product has transferred to the customer, in general upon delivery of the goods. Product sale contracts generally include one performance obligation.

Goods and services -type of revenue involves short-term field service jobs, which include the delivery of a combination of service and equipment. The revenue is recognised at a point in time when the service is rendered. Goods and service -type contracts generally include one performance obligation.

Projects contain short- and long-term projects. Depending on the contract terms and the duration of the project, the revenue is recognised at a point in time or over time. Revenue related to Marine long-term projects, such as gas solutions construction contracts, integrated solutions projects, ship design, and Energy solutions turnkey contracts, is recognised over time. Revenue for tailor-made equipment delivery projects is recognised at a point in time both in Marine and Energy Business. Project contracts generally represent one performance obligation but can under

certain circumstances contain multiple performance obligations in the Marine business, when a contract contains multiple units of delivery.

Long-term agreements contain long-term operating and maintenance agreements for which the revenue is recognised over time. The contracts included in this revenue type generally contain one performance obligation per installation.

Contracts with customers often include warranties in line with Wärtsilä's General terms and conditions, which are regarded as part of the promise to the customer. Extended warranties or warranties purchased as an option are identified as separate performance obligations.

Revenue recognised over time is measured in accordance with the input method (progress measured based on costs incurred) when the outcome of the contract can be estimated reliably. When the outcome cannot be reliably determined, the costs arising are expensed in the same financial period in which they occur, but the revenue is recorded only to the extent that the company will receive an amount corresponding to actual costs. Any losses are expensed immediately. If revenue for goods and services is recognised at a point in time, it is when control is transferred to the customer. The transfer of control is based mainly on transferring risks and rewards according to the delivery terms.

In case there are multiple contracts entered into with the same client at near the same time, the combination of the contracts is evaluated.

The Group applies the practical expedient according to IFRS 15.63 concerning significant financing components arising from contracts with customers. In case the lead time between the payments specified in the contract and the corresponding transferral of the promised good or service to the customer is one year or less, no adjustment is made for the effect of a possible significant financing component.

The Group also applies the practical expedient stated in IFRS 15.94 according to which an entity can recognise the incremental costs of obtaining a contract as an expense when incurred if the amortisation period of the asset that the entity would have recognised is one year or less. Wärtsilä has not incurred any costs of obtaining a contract to be recognised as an asset.

Employee benefits

Pension and other long-term employee benefits

Pension plans

Group companies in different countries have various pension plans in accordance with local conditions and practices. These pension plans are classified either as defined contribution or defined benefit plans. The fixed contributions to the defined contribution plans are expensed in the year to which they relate. The Group has no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay employee benefits. All other plans are defined benefit plans.

Defined benefit plans are funded through contributions to pension funds or pension insurance companies. Defined benefit plans may be unfunded or wholly or partly funded. The present value of the obligation arising from the defined benefit plans is determined per each plan using actuarial techniques, the projected unit credit method. The Group recognises the defined benefit obligation net of fair value of the plan assets at the end of the financial period.

Actuarial gains and losses and other remeasurements of the net defined benefit obligation are recognised immediately in the statement of other comprehensive income. Current service cost is the present value of the postemployment benefit, which is earned by the employees during the year. The Group determines the net interest expense on the net defined benefit plan by applying the discount rate used to measure the defined benefit obligation. Service cost is recognised in employee benefit expenses and the net interest in financial expenses. The defined benefit plans are calculated by qualified actuaries.

Other long-term employee benefits

In addition to defined benefit plans, Wärtsilä has other long-term employee benefits. They are presented separately from the defined benefit plans. Similarly, to the accounting for a defined benefit plan, for any other long-term benefit the Group recognises a liability for the obligation net of the fair value of plan assets, if any. Changes in other long-term employee benefits are recognised in the consolidated statement of income.

Share-based payments

The company's bonus scheme, which is tied to the price development of the company's share during a pre-determined timeframe, is measured at the fair value of the share on the reporting date and reported in the statement of income for the term-to-maturity of the bonus scheme. An upper limit is set for the bonus. When a bonus scheme ends, and the employment requirement is fulfilled, the bonus is settled in cash and/or shares.

Goodwill and other intangible assets

Goodwill

Goodwill is the difference between the aggregate of the acquisition-date fair value of the consideration transferred, and the acquirer's share of the company's net identifiable assets and liabilities measured at fair value on the acquisition date. The consideration transferred is measured at fair value, including also the acquirer's previously held equity interest.

Research and development costs

Research costs are expensed in the financial period during which they occur. Development costs are capitalised when it is probable that the development project will generate future economic benefits for the Group and when the related criteria, including commercial and technological feasibility, have been met. These projects involve the development of new or significantly improved products or production processes. Earlier expensed development costs are not capitalised.

Capitalised development costs are measured at cost less accumulated amortisations and impairment. Capitalised development costs are amortised and the cost of buildings, machinery, and facilities for development depreciated on a straight-line basis over their expected useful lives, 5-10 years. Amortisations are started when the asset is finished and can be taken into use. Before that, the asset is tested for impairment annually. Grants received for research and development are reported as other operating income. Grants related to capitalised development costs are netted with the costs occurred before the capitalisation.

Other intangible assets

Other intangible assets are recorded at cost if the cost is reliably measurable and the future economic benefits for the Group are probable. Wärtsilä's other intangible assets include patents, licenses, software, customer relations and other intellectual property rights that can be transferred to a third party. These are measured at cost, except for intangible assets identified in connection with acquisitions, which are measured at the fair value at the acquisition date. The cost of intangible assets comprises the purchase price and all costs that can be directly attributed to preparing an asset for its intended use.

Other intangible assets are amortised on a straight-line basis over their estimated useful lives. Intangible assets, for which the time limit for the right of use is agreed, are amortised over the life of the contract. Intangible assets identified in connection with acquisitions are amortised over their delivery times or estimated useful lives.

The general guidelines for scheduled amortisation are:

- Software 3-7 years
- Development expenses 5-10 years
- Other intangible assets 5-20 years

The estimated useful lives and the residual values are reviewed at least at the end of each financial period, and if they differ significantly from previous estimates, amortisation periods are adjusted accordingly. Amortisation of intangible assets is stopped when an item is classified as held for sale.

A gain or loss arising from the sale of intangible assets is recognised in other operating income or other operating expenses in the statement of income.

Property, plant and equipment

Property, plant and equipment acquired by the Group are measured in the statement of financial position at cost less accumulated depreciation and impairment losses. The cost of an asset includes costs directly attributed to preparing an asset for its intended use. Grants received are reported as a reduction in costs. The property, plant and equipment of acquired subsidiaries are measured at their fair value at the acquisition date. The borrowing costs that are directly attributable to the asset acquisition, construction or production, and to completion of the asset for its intended use or sale requiring necessarily a considerable length of time, will be capitalised in the statement of financial position as part of the cost of the asset. Other than directly attributable borrowing, costs are expensed in the period in which they are incurred.

Subsequent expenditure is included in the cost of an asset only if the future economic benefits for the Group are probable and the costs are reliably measurable. Expenditure related to regular, extensive inspections and maintenance is treated as an investment, capitalised and depreciated during the useful life. All other expenditure, such as ordinary maintenance and repairs, is recognised in the statement of income as an expense as incurred.

Depreciation is based on the following estimated useful lives:

- Buildings 10-40 years
- Machinery and equipment 5-20 years
- Other tangible assets 3-10 years

Depreciation is expensed on a straight-line basis over the estimated useful lives of the assets. Land is not depreciated, as its useful life is considered as infinite. The estimated useful lives and the residual values are reviewed at least at the end of each financial period, and if they differ significantly from previous estimates, depreciation periods are adjusted accordingly. Depreciation of property, plant and equipment is stopped when an item is classified as held for sale.

A gain or loss arising from the sale of property, plant and equipment is recognised in other operating income or other operating expenses in the statement of income.

Leases

The Group's capitalised lease agreements consist mainly of office premises, vehicles and production machinery and equipment lease agreements. The average lease period for buildings is approximately eight years, and for machinery and equipment approximately four years. The Group recognises a right-of-use (ROU) asset and a lease liability at the commencement of the lease. Whether a contract contains a lease is determined based on whether Wärtsilä has the right to control the use of an identified asset for a period of time.

At the commencement date, a right-of-use asset as defined by IFRS 16 is measured at cost. The cost of the right-of-use asset shall comprise the amount of the initial measurement of the lease liability, any lease payments made at or before the commencement date (less any lease incentives received), any initial direct costs incurred by the lessee and an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease, unless those costs are incurred to produce inventories.

The nominal lease liability is initially measured at the present value of the lease payments over the lease term. The lease payments include fixed payments, amounts to be expected to be paid under residual value guarantees, the exercise price of reasonably certain extension options, and payments of penalties for terminating a lease in case this reflects the lease term. The lease payments are discounted using the interest rate implicit in the lease, if this rate can be readily determined. Otherwise the lessee's incremental borrowing rate is used. The incremental borrowing rates used are the sum of relevant interbank rates and average margin of group loan portfolio and are currency specific.

The initial measurement of the lease payments does not include possible variable elements. Variable lease payments not included in the initial measurement of the lease liability are recognised directly in the statement of income.

The lease term is the non-cancellable period of the lease plus period covered by an option to extend or option to terminate if the lessee is reasonably certain to exercise the extension option. Management judgment based on realistic estimates is used when determining the lease term, especially concerning lease agreements containing termination and purchase options and lease agreements with indefinite lease terms.

Subsequently, the right-of-use assets are measured at initial measurement less accumulated depreciation and impairment losses. The right-of-use assets are depreciated and interest on lease liabilities recognised in the statement of income over the lease term. The lease liabilities are subsequently measured at initial recognition less occurring lease payments that are allocated to the principal.

Lease payments are presented as repayments of liabilities and related interest expenses. The lease payments are presented in the cash flow from financing activities and the interest related to leases are presented in the cash flow from operating activities. Lease payments related to short-term leases, low-value assets and variable payments are presented in the cash flow from operating activities.

Contracts may combine different kinds of obligations to the supplier, which might be a combination of lease components or a combination of lease and non-lease components. These lease and non-lease components are accounted for separately and the consideration is allocated between the components based on relative stand-alone selling prices.

The lease and non-lease components are separated. In the case that separating the components is not possible judgement is used to allocate the non-lease component in the accounting. The selection of separating or not the non-lease component from lease is applied to the whole asset class.

Modifications to lease agreements may result in adjustments to existing right-of-use assets and lease liabilities. A gain or loss arising from a modification and a termination of a lease agreement is recognised in other operating income or other operating expenses in the statement of income.

The Group applies the two available exemptions, which relate to either short-term contracts, in which the lease term is less than 12 months, or low-value assets, which are expensed to other operating expenses.

Impairment of assets

Goodwill

The carrying amount of goodwill allocated to cash generating units is reviewed annually for signs of possible impairment or more frequently should any indication of impairment arise. If any such indication exists, the recoverable amount of the goodwill is estimated. In order to define a possible impairment, the Group's assets are divided up into the smallest possible cash generating units, which are mainly independent of other units and the cash flows of which are separately identifiable and to a large extent independent of the cash flows of other similar units.

An impairment loss is recorded when the carrying amount of an asset is greater than its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and its value in use. The value in use for goodwill is based on the expected discounted future net cash flows resulting from the asset or cash generating unit.

A pre-tax rate which reflects the markets' position on the time value of money and asset-specific risks is used as the discount rate.

An impairment loss is recognised immediately in other operating expenses in the statement of income. An impairment loss recognised for goodwill is not reversed under any circumstances.

Other intangible assets and property, plant and equipment

The carrying amounts of assets are reviewed annually for signs of possible impairment or more frequently should any indication of impairment arise. If any such indication exists, the recoverable amount of the asset is estimated and compared to the carrying amount of the asset. An impairment loss is recorded when the carrying amount of an asset is greater than its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and its value in use.

An impairment loss is recognised immediately in other operating expenses in the statement of income. In connection with the recognition of the impairment loss, the useful life of the amortisable/depreciable asset is reassessed. An earlier impairment loss recognised for an asset is reversed if the estimates used to determine the recoverable amount change. However, reversal of impairment shall not exceed the asset's carrying amount less impairment loss.

Determination of the fair value of assets acquired through business combinations

In significant business combinations, the Group has used external advisors when estimating the fair values of property, plant and equipment and intangible assets. For property, plant and equipment, comparisons have been made of the market prices of similar assets, and the depreciation of the acquired assets due to ageing, wear, and other similar factors has been estimated. The fair value measurement of intangible assets is based on estimates of the future cash flows associated with the assets. The acquired identifiable intangible assets include typically technology, customer relationships, and trademarks.

Inventories

Inventories are carried at the lower of cost and net realisable value. Materials and consumables are valued weighted average cost. Finished products are valued at direct purchasing and manufacturing costs and allocated purchasing and manufacturing overhead costs. Work in progress includes costs for direct labour and material costs and allocated overhead costs related to manufacturing and purchasing when control has not yet transferred to the customer.

The devaluation of inventory due to obsolete and excess stock, is performed based on the management's best estimate on the balance sheet date. Analysis of inventory aging, turn over and composition compared to anticipated future use is the basis for the estimates.

Financial assets and liabilities

Financial assets

Financial assets are classified, at initial recognition, as subsequently measured according to the following categories: financial assets measured at amortised cost, financial assets at fair value through the statement of income and financial assets at fair value through other comprehensive income. Financial assets are classified according to their cash flow characteristics and the business model they are managed in and accounted for at settlement date.

Financial assets at amortised cost

The Group's financial assets at amortised cost includes interest-bearing investments, other receivables and trade receivables that are recognised at their anticipated realisable value, which is the original invoiced amount less an estimated valuation allowance for impairment. The Group assesses the possible increase in the credit risk for financial assets measured at amortised cost at the end of each reporting period individually. The methodology applied depends on whether there has been a significant increase in credit risk. The loss allowance is estimated at an amount equal to 12-month expected credit losses at the current reporting date, if there has not been a significant increase in credit risk.

For trade receivables and receivables from over time revenue recognition in accordance with the input method, a simplified approach is used and the loss allowance is measured at the estimate of the lifetime expected credit losses. Receivables from over time revenue recognition in accordance with the input method should be covered with advance payments collected from customers, so recognising credit losses based on the lifetime expected loss amounts mainly concerns trade receivables. Examples of events giving rise to impairment include a debtor's serious financial problems, and a debtor's probable bankruptcy or other financial arrangement.

The Group may sell undivided interests in trade receivables on an ongoing and one-time basis to lending institutions. Financial assets sold under these arrangements are excluded from trade receivables in the Group's consolidated statement of financial position at the time of payment from the acquirer, considering that substantially all risks and rewards have been transferred. If the acquirer has not settled the payment to the extent that the ownership, risk and control over the receivable have been substantially transferred, then such financial assets sold are re-recognised in the consolidated statement of financial position at the end of the reporting period.

Interest-bearing investments are measured at amortised cost and they include loans and receivables, which are non-derivative financial assets that have fixed or determinable payments and that are not quoted on active markets. They arise when the Group provides a loan or delivers products and services directly to a debtor. They are included in non-current receivables, unless they have a maturity of less than 12 months from the reporting date. Such items are classified as current receivables.

Cash and cash equivalents comprise cash in hand, deposits held at call with banks, and other short-term cash investments. Other short-term cash investments are highly liquid investments that are subject to only minor fluctuations in value and have a maturity of up to three months on the date of acquisition. Cash in hand and deposits held at call are presented at amortised cost. Other cash investments are mainly measured at fair value, except for commercial paper investments that are presented at amortised cost. Credit accounts related to Group cash pool accounts are included in current financial liabilities.

Financial assets at fair value through the statement of income

Financial assets at fair value through profit or loss include derivatives not included in hedge accounting and other financial investments.

Other financial investments include Wärtsilä's investments in other companies (both listed and unlisted shares) and they are classified as financial assets at fair value through the statement of income. The fair value for listed shares is based on their market value. Gains and losses from fair valuation and disposal and impairments of shares that are attributable to operating activities are included in operating income, while gains and losses from fair valuation and disposal and impairments of other shares are included in financial income and expenses.

The category includes also derivatives that do not qualify for hedge accounting and are not financial guarantee agreements and other financial assets recognised at fair value through the statement of income, which are financial assets held for trading.

Derivatives held for trading, as well as financial assets maturing within 12 months after the end of financial period, are included in current assets. Non-derivative financial assets are included in non-current assets unless the Group intends to dispose of the investment within 12 months from the reporting date.

Except for commercial paper investments that are presented at amortised cost, other short-term cash investments are recognised at fair value.

Financial assets at fair value through other comprehensive income

Financial assets recognised at fair value through other comprehensive income include derivatives eligible for hedge accounting.

Financial liabilities

The Group's financial liabilities are initially recognised and subsequently classified either into financial liabilities recognised at amortised cost or financial liabilities recognised at fair value through the statement of income. Financial liabilities are classified as current unless the Group has the unconditional right to defer the payment of the debt to at least 12 months from the end of the financial period. Financial liabilities (or parts thereof) are only derecognised once the debt has extinguished, i.e. once the contractually specified obligation is discharged, cancelled or expires.

Financial liabilities recognised at amortised cost

Financial liabilities recognised at amortised cost include trade and other payables, loans and borrowings.

The loans raised by the Group are included in financial liabilities recognised at amortised cost. They are measured at their initial recognition at fair value using the effective interest rate method. After the initial recognition, loans are measured at amortised cost. Interests on loans are expensed through the statement of income over the maturity of the debt using the effective interest rate method.

Financial liabilities recognised at fair value through the statement of income

In the Wärtsilä Group, financial liabilities recognised at fair value through the statement of income include derivatives that are not eligible for hedge accounting.

Derivatives

Derivatives are initially recognised at fair value in the statement of financial position and are thereafter measured at their fair value at the end of each reporting period.

Gains and losses from the fair value measurement are recognised in the statement of income as determined by the purpose of the derivatives.

Wärtsilä hedges its sales and purchases in foreign currencies with foreign exchange derivatives or currency options. Certain foreign exchange derivatives are eligible for hedge accounting. The ineffective portion is immediately recognised in the financial items in the statement of income for the financial period. Currency forwards are measured at forward rates at the end of the financial period and currency options at their market value at the end of the financial period.

In addition, Wärtsilä hedges its interest rate risk with derivatives.

Derivatives measured at fair value through statement of income

Realised and unrealised gains and losses from changes in fair values of derivatives that are not included in hedge accounting are recognised in the statement of income in the period in which they have arisen.

Interest rate hedges against Wärtsilä Group's loan portfolio belong to this group. Changes in the fair value of these interest rate hedges are immediately recognised in financial income or expenses in the statement of income. The fair value of interest rate swaps is calculated by discounting the future cash flows.

Derivatives measured at fair value through other comprehensive income

The effective portion of derivatives eligible for hedge accounting is recognised at fair value through other comprehensive income.

For derivatives included in hedge accounting, the Group documents the relationship between each hedging instrument and the hedged asset upon entering into a hedging arrangement, along with the risk management objective and the strategy applied. Through this process, the hedging instrument is linked to the relevant assets and liabilities, projected business transactions or binding contracts. The Group also documents its ongoing assessment of the effectiveness of the hedge as regards the relationship between a change in the derivative's fair value and a change in the value of the hedged cash flows or transactions.

Changes in the fair value of derivative contracts designated to hedge future cash flows are recognised in other comprehensive income and presented in the fair value reserve in equity, provided that the hedging is effective. Any gain or loss in the fair value reserve related to derivatives accumulated through other comprehensive income is reported in the statement of income in the same period as any transactions relating to the hedged obligations or estimates, e.g. as an adjustment to net sales or material and services. The ineffective portion is immediately recognised in the financial items in the statement of income for the financial period. Changes in fair value of foreign exchange derivatives due to interest rate differences are recognised in the statement of income.

Fair value hierarchy

Financial instruments measured at fair value are classified according to the following fair value hierarchy: instruments measured using quoted prices in active markets (level 1), instruments measured using inputs other than quoted prices included in level 1 observable either directly or indirectly (level 2), and instruments measured using inputs that are not based on observable market data (level 3). Financial instruments measured at fair value include financial assets and liabilities at fair value through the statement of income.

Contract balances

Contract balances consist of customer-related assets and liabilities.

When control over goods or services is transferred to a customer before the customer pays the consideration, the receivable is recognised as a contract asset. The contract asset represents the right to future consideration.

When the customer pays consideration in advance, or the consideration is due before transferring the contractual performance obligation, the amount received in advance is presented as a contract liability. Contract liabilities are recognised as revenue when the Group performs under the contract.

Provisions and contingent liabilities

Provisions are recognised in the statement of financial position when the Group has a present legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Provisions can arise, for example, from warranties, environmental risks, litigation, foreseeable losses on projects, and restructuring costs. The amount to be recognised as provisions corresponds to the management's best estimate of the expenses that will be necessary to meet the existing obligation at the end of the financial period.

Estimated future warranty costs relating to products delivered are recorded as provisions. The amount of future warranty costs is based on accumulated experience.

Provisions for restructuring costs are made once the restructuring plan has been approved and the implementation started, or the personnel concerned have been informed of the terms. The plan must indicate which activities and personnel will be affected and the timing and cost of implementation.

Contingent liabilities are possible obligations resulting from previous events, the existence of which will only be ascertained once the uncertain event that is beyond the Group's control materialises. Existing obligations that are not likely to require the fulfilment of a payment obligation or the amount of which cannot be reliably determined, are also considered contingent liabilities. Contingent liabilities are presented in the notes.

Income taxes

The statement of income includes taxes on the Group's consolidated taxable income for the financial period in accordance with local tax regulations, tax adjustments for previous financial periods, and changes in deferred taxes. Tax effects related to transactions recognised through the statement of income and other events are recognised in the statement of income. Tax effects related to transactions or other events to be presented as components of other comprehensive income or directly in equity are also recognised, respectively, in other comprehensive income or directly in equity.

Income tax positions are evaluated to identify situations when there might be uncertainty due to tax regulation being subject to interpretation. Provisions for these uncertain tax positions are recognised when it is considered more likely than not that the positions will be challenged by the tax authorities. The provision recognised is based on the estimation of the amount of the final taxes to be paid to the tax authorities.

Deferred tax liabilities and assets are calculated on temporary differences arising from the difference between the tax basis of assets and liabilities and the carrying values using the enacted tax rates at the end of the financial period. The statement of financial position includes deferred tax liabilities in their entirety and deferred tax assets at their estimated probable amount.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities, and when the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend to settle the balances on a net basis.

Dividends

The dividend proposed by the Board of Directors is deducted from distributable equity when approved by the company's Annual General Meeting. Unpaid dividends are presented as liability in the consolidated financial statements.

Adoption of new and updated IFRS standards

In 2020, the Group will adopt the following amended standards issued by the IASB.

Amendments to **IFRS 3 Business Combinations** (effective for financial periods beginning on or after 1 January 2020). The amendments are intended to assist entities to determine whether a transaction should be accounted for as a business combination or as an asset acquisition. The amendments clarify the minimum requirements for a business, remove the assessment of whether market participants are capable of replacing any missing elements, add guidance to help entities assess whether an acquired process is substantive, narrow the definitions of a business and of outputs, and introduce an optional fair value concentration test. The amendments are not expected to have an impact on the consolidated financial statements.

Amendments to **IAS 1 Presentation of Financial Statements** and **IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors** (effective for financial periods beginning on or after 1 January 2020). The purpose of the amendments is to align the definition of 'material' across the standards and to clarify certain aspects of the definition. The amendments clarify that materiality will depend on the nature or magnitude of information, or both. The amendments are not expected to have an impact on the consolidated financial statements.

Amendments to **IFRS 9 Financial Instruments**, **IAS 39 Financial Instruments: Recognition and Measurement** and **IFRS 7 Financial Instruments: Disclosures** (effective for financial periods beginning on or after 1 January 2020). These amendments provide certain reliefs in connection with interest rate benchmark reform. The reliefs

relate to hedge accounting and have the effect that IBOR reform should not generally cause hedge accounting to terminate. Any hedge ineffectiveness should continue to be recorded in the statement of income. The amendments are not expected to have significant impact on the consolidated financial statements.

The Group expects to adopt later than 2020 the following new standard issued by the IASB.

IFRS 17 Insurance Contracts* (effective from financial periods beginning on or after 1 January 2021). IFRS 17 applies to all types of insurance contracts (direct insurance and re-insurance) regardless of the type of entities that issue them, as well as to certain guarantees and financial instruments with discretionary participation features. The overall objective is to provide a consistent accounting model for insurance contracts. The impact is under review within the Group.

* Not yet endorsed for use by the European Union as of 31 December 2019.

Notes to the consolidated financial statements

1. Segment information

As of 2019 Wärtsilä is organised into two business areas, Wärtsilä Marine Business and Wärtsilä Energy Business, according to its two main customer markets. The Businesses cover both new equipment sales and services for their respective markets. The new organisational structure enables Wärtsilä to accelerate growth and the implementation of its Smart Marine and Smart Energy strategies. Integrating newbuild and service activities enhances customer value by strengthening the focus on complete lifecycle solutions tailored to specific market needs. Wärtsilä Marine Business and Wärtsilä Energy Business constitute Wärtsilä's operating and reportable segments.

Wärtsilä's highest operative decision maker (CODM, Chief Operating Decision Maker) is the President and CEO, with the support of the Board of Management and in some cases the Board of Directors.

Wärtsilä Marine Business and Wärtsilä Energy Business are both led by Presidents of respective business area and both are supported by Business management teams. Discrete financial information for the Businesses is provided to the CODM to support decision-making. The segment information presented by Wärtsilä reflects the internal management reporting. The segment information is reported to the level of operating result, as items below the operating result are not allocated to segments. The comparable operating result is used by the CODM also to measure the performance, both on segment and Group level. Assets and liabilities are measured on Group level and not allocated to segments.

Internal sales between segments is not reported in the management reporting, revenue and costs of sales are recognised directly to the respective customer projects and orders. The main factors affecting the allocation of indirect and administration costs to the segments are net sales and personnel amount. Management considers these allocation principles the most suitable to reflect the cost carried by each segment. The allocation principles are reviewed regularly.

Wärtsilä Energy Business

Wärtsilä Energy Business leads the transition towards a 100% renewable energy future. Wärtsilä helps its customers unlock the value of the energy transition by optimising their energy systems and future-proofing their assets. Wärtsilä's offering comprises flexible power plants, energy management and storage systems, as well as lifecycle services that enable increased efficiency and guaranteed performance.

Wärtsilä's three main customer segments in the energy markets are utilities, independent power producers and industrial customers. Wärtsilä's energy solutions are used for a wide variety of applications. These include baseload generation, capacity for grid stability, peaking and load-following generation, and for the integration of wind and solar power. Wärtsilä provides its customers with a comprehensive understanding of energy systems, including fully integrated assets and software, complete with value adding lifecycle services.

Wärtsilä Marine Business

Wärtsilä's aim is to lead the industry's transformation towards a Smart Marine Ecosystem. Building on a sound foundation of being a leading provider of innovative products, integrated solutions and lifecycle services to the marine and oil & gas industries, Wärtsilä Marine aims to unlock new customer values through connectivity, digitalisation and smart technology. Wärtsilä provides marine power solutions, processing solutions and voyage solutions, which are supported by a broad scope of services ranging from spare part delivery to optimising customer operations, providing performance guarantees and offering cyber intelligence and incident support.

Wärtsilä Marine Business derives its revenues from the following products and services:

Marine power solutions	Processing solutions	Voyage solutions
· Power supply	· Water and waste treatment	· Automation, navigation & communication
· Power conversion	· Gas solutions for marine	· Simulation & training solutions
· Propulsion	and land-based applications	· Fleet operations solutions
· Exhaust treatment		· Ship traffic control solutions
		· Special products
		· Entertainment systems

Wärtsilä's marine customer base covers all the main vessel segments, including traditional merchant vessels, gas carriers, cruise & ferry, navy, and special vessels. In the oil & gas industry, Wärtsilä is active in serving offshore installations and related industry vessels, as well as land-based gas installations. Wärtsilä's customers comprise ship owners, shipyards and ship management companies.

In Wärtsilä Marine Business, order intake and net sales for retrofit scrubber projects have been transferred from services to new equipment. The comparison period figures for the segment reporting and the service information have been adjusted to reflect the new reporting structure.

MEUR	2019	2018
Net sales		
Wärtsilä Marine Business	3 330	2 815
Wärtsilä Energy Business	1 840	2 359
Total	5 170	5 174
Depreciation, amortisation and impairment		
Wärtsilä Marine Business	-147	-102
Wärtsilä Energy Business	-33	-28
Total	-180	-130
Share of result of associates and joint ventures		
Wärtsilä Marine Business	-9	13
Total	-9	13
Operating result		
Wärtsilä Marine Business	237	349
Wärtsilä Energy Business	125	194
Total	362	543
Operating result as a percentage of net sales (%)		
Wärtsilä Marine Business	7.1	12.4
Wärtsilä Energy Business	6.8	8.2
Total	7.0	10.5
Comparable operating result		
Wärtsilä Marine Business	305	380
Wärtsilä Energy Business	152	197
Total	457	577
Comparable operating result as a percentage of net sales (%)		
Wärtsilä Marine Business	9.1	13.5
Wärtsilä Energy Business	8.3	8.4
Total	8.8	11.2

Alternative performance measures

Wärtsilä provides certain financial performance measures, which are not defined by IFRS. These alternative performance measures are followed and used by management to measure the Group's performance and financial position. These alternative performance measures also provide useful information to the capital markets.

The alternative performance measures should not be evaluated in isolation from the IFRS measures. The alternative performance measure calculation definitions are disclosed in Calculations of financial ratios.

Wärtsilä discloses comparable performance measures to enhance comparability between periods. Certain income and expenses are presented as items affecting comparability when they have significant impact on the consolidated statement of income. Items affecting comparability consist of

income and expenses, which result from restructuring activities aiming to adjust the capacity of Wärtsilä's operations. They may also include other income and expenses incurred outside Wärtsilä's normal course of business, such as impairment charges, acquisition related costs, settlements recorded as a result of legal proceedings with third parties or unforeseen obligations from earlier discontinued businesses.

The reconciliation of comparable operating result to operating result is presented in the table below:

Measures of profit and items affecting comparability

MEUR	2019	2018
Comparable adjusted EBITA	498	621
Purchase price allocation amortisation	-41	-43
Comparable operating result	457	577
Items affecting comparability:		
Restructuring costs		
Social plan costs	-31	-8
Impairment and write-downs	-23	-19
Other restructuring costs and transfer costs	-17	-2
Other items affecting comparability		
Impairment and write-downs	-13	
Litigation settlements	-6	
Acquisition related costs		-6
Other	-4	
Items affecting comparability, total	-95	-35
Operating result	362	543

Entity wide information

In addition to segment information, Wärtsilä reports the services revenue and order intake for both segments. Wärtsilä continues to report information for the geographical areas Finland, other European countries, Asia, the Americas, and other. In the geographical information net sales are split by customer destination and non-current assets by customer origin. Non-current assets consist of goodwill, intangible assets, property, plant and equipment, right-of-use assets, and investments in associates and joint ventures.

Geographical information

During the financial period 1 January - 31 December 2019 and 1 January - 31 December 2018 Wärtsilä did not have any individual significant customers or countries. The sales to the USA represented 11% (14) and sales to China 11% (7) of the total net sales.

MEUR	2019		2018	
	Net sales	Non-current assets	Net sales	Non-current assets
Finland	78	324	56	242
Other European countries	1 612	1 595	1 429	1 534
Asia	1 968	114	1 867	90
The Americas	1 098	271	1 245	266
Other	414	7	577	5
Total	5 170	2 310	5 174	2 137

Service information

MEUR	2019	2018
Net sales		
Marine service	1 639	1 577
Energy service	863	842
Total	2 502	2 419

2. Acquisitions

Acquisitions 2019

Ships Electronic Services Ltd

In May, Wärtsilä acquired 100% of Ships Electronic Services Ltd ("SES"), a UK based company specialising in navigation and communication electronics, installation, maintenance and repair services, mainly for commercial and leisure vessels. SES' turnover was approximately GBP 10 million and the company employed a staff of 47. The enterprise value of the transaction was GBP 3.2 million.

The consideration paid and the impact on profit for the financial period are not significant.

Acquisitions 2018

Transas Group

In May, Wärtsilä acquired 100% of Transas, a global company headquartered in the U.K.

Transas is a global market leader in marine navigation solutions that include complete bridge systems, digital products and electronic charts. The company is also a leader in professional training and simulation services, ship traffic control, as well as monitoring, and support.

The following tables summarise the amounts for the consideration paid for Transas, the cash flow from the acquisition, and the amounts of the assets acquired and liabilities assumed recognised at the acquisition date.

	MEUR
Total consideration	
Consideration transferred	183
Total consideration transferred	183

	MEUR
Cash flow from the acquisition	
Consideration paid in cash	183
Cash and cash equivalents of the acquired company	-12
Total cash flow from the acquisition	171

The assets and liabilities arising from the acquisition	MEUR
Intangible assets	66
Property, plant and equipment	2
Inventories	8
Trade and other receivables	50
Deferred tax assets	2
Cash and cash equivalents	12
Total assets	140
Provisions	3
Interest-bearing debt	29
Trade payables and other liabilities	39
Deferred tax liabilities	13
Total liabilities	83
Total net assets	57
Goodwill	113

The fair values of the acquired identifiable intangible assets at the date of the acquisition (including technology, customer relations, and trademarks) amounted to EUR 55 million. The fair value of the current trade receivables and other receivables is approximately EUR 50 million. The fair value of the trade receivables does not include any significant risk.

The goodwill of EUR 113 million reflects the value of know-how and expertise in digital marine solutions and services. The acquisition takes Wärtsilä a significant step closer to achieving its mission of enabling sustainable societies with smart technologies. It will also speed delivery on the company's promise to disrupt the industry by establishing an ecosystem that is digitally connected across the entire supply chain, through applications that are secure, smart and cloud-based.

During 2018 the Group incurred acquisition-related costs of EUR 3 million related to external legal fees and due diligence costs. The costs have been included in the other operating expenses in the consolidated statement of income.

Pro forma

If the acquisition had occurred on 1 January 2018, management estimates that the consolidated net sales would have been EUR 5,213 million. The impact in the consolidated operating result would not have been significant. In determining these amounts, management has assumed that the fair value adjustments, which arose on the date of the acquisition would have been the same if the acquisition had occurred on 1 January 2018.

Other acquisitions

In February, Wärtsilä acquired 100% of Trident B.V. and LOCK-N-STITCH Inc. In October, Wärtsilä acquired 100% of Burriel Navarro, S.L.

Trident B.V. is a Netherland based company specialised in underwater ship maintenance, inspection, and repair services. With this acquisition, Wärtsilä builds in-house competence, captures the full potential of services' product synergies, and strengthens its position in the market.

LOCK-N-STITCH Inc. is an American engineering company serving customers within the marine and energy sectors as well as other industries. It specialises in cast iron repairs. The acquisition strengthens Wärtsilä's service portfolio for customers operating multiple brands.

Burriel Navarro, S.L is a company operating in underwater services in the main ports of Spain. The acquisition supports the growth of Wärtsilä's underwater services and expands the company's local presence in the European market.

The following tables summarise the amounts for the consideration paid, the cash flow from the acquisitions and the amounts of the assets acquired and liabilities assumed recognised at the acquisition dates.

	MEUR
Total consideration	27
Consideration transferred	27
Total consideration transferred	27

	MEUR
Cash flow from the acquisitions	26
Consideration paid in cash	23
Contingent consideration	4
Cash and cash equivalents of the acquired companies	-1
Total cash flow from the acquisitions	26

	MEUR
The assets and liabilities arising from the acquisitions	19
Intangible assets	10
Property, plant and equipment	2
Inventories	1
Trade and other receivables	6
Cash and cash equivalents	1
Total assets	19
Trade payables and other liabilities	4
Deferred tax liabilities	3
Total liabilities	6
Total net assets	13
Goodwill	13

The fair values of acquired identifiable intangible assets at the dates of the acquisitions (including technology, customer relations, and trademarks) amounted to EUR 10 million. The fair value of current trade receivables and other receivables is approximately EUR 6 million. The fair value of the trade receivables does not include any significant risk.

The goodwill of EUR 13 million reflects the value of know-how and expertise in advanced underwater services.

During 2018, the acquisition-related costs the Group incurred related to external legal fees and due diligence costs were insignificant. The costs have been included in the other operating expenses in the consolidated statement of income.

Pro forma

If the acquisitions had occurred on 1 January 2018, management estimates that the consolidated net sales would have been EUR 5,176 million. The impact in the consolidated operating result would not have been significant. In determining these amounts, management has assumed that the fair value adjustments, which arose on the dates of the acquisitions would have been the same if the acquisitions had occurred on 1 January 2018.

3. Disposals

Disposals 2019

In 2019, there were no disposals.

Disposals 2018

Disposal of pumps business

On 31 October 2018, Wärtsilä divested its pumps business to Solix Group, a Scandinavian investment company. Wärtsilä Pumps has belonged to the Wärtsilä Marine Solutions organisation and became part of the Group along with the acquisition of Hamworthy in 2012. The Wärtsilä Pumps business recorded sales of approximately EUR 50 million in 2017. The cash consideration of the transaction was EUR 45 million, and in addition EUR 20 million of the transaction price was reported as a receivable in the non-current other receivables in the consolidated statement of financial position in 2018. Wärtsilä reported a gain of EUR 27 million in other operating income from the transaction.

Other disposals

On 20 October 2018, Wärtsilä sold its majority interest in Wärtsilä Yuchai Engine Co. Ltd. The consideration received and the impact on profit for the financial period were not significant.

4. Assets held for sale

In December, Wärtsilä announced the divestment of shares in Wärtsilä ELAC Nautik GmbH (ELAC Nautik) to Cohort plc. ELAC Nautik's main market focus is on hydroacoustic products, including sonars, underwater communication systems and echo systems for small and medium sized military submarines.

Wärtsilä, through its Smart Marine Ecosystem approach, is leading the marine industry's transition into a new era of high efficiency, greater safety, and outstanding environmental performance. As this is Wärtsilä's core strategy for Marine Business, and ELAC Nautik business has no clear synergistic link to Wärtsilä's Smart Marine activities in transforming the marine sector, the portfolio is aligned to those growth businesses that can drive this transition.

Additionally, Wärtsilä has started preparations to divest its Entertainment business, which is also classified as assets held for sale.

The assets held for sale belong to the Wärtsilä Marine Business segment and they are valued at the lower of book value or fair value.

Subject to approvals, completion of these transactions is expected in the early part of 2020.

Items on statement of financial position

MEUR	31.12.2019
Property, plant and equipment	3
Right-of-use assets	4
Deferred tax assets	8
Inventories	18
Other receivables, current	39
Cash and cash equivalents	11
Assets held for sale	82
Interest-bearing debt, non-current	4

Deferred tax liabilities	8
Other liabilities, non-current	8
Other liabilities, current	47
Liabilities directly attributable to assets held for sale	68
Net assets	14

5. Disaggregation of revenue

Revenue from the contracts with customers is derived over time and at a point in time in the following revenue types.

Net sales by revenue type

MEUR	2019	2018
Products		
Wärtsilä Marine Business	846	765
Wärtsilä Energy Business	338	380
Total	1 184	1 145
Goods and services		
Wärtsilä Marine Business	509	469
Wärtsilä Energy Business	93	88
Total	603	557
Projects		
Wärtsilä Marine Business	1 786	1 377
Wärtsilä Energy Business	1 113	1 615
Total	2 899	2 992
Long-term agreements		
Wärtsilä Marine Business	189	204
Wärtsilä Energy Business	296	276
Total	484	480
Total	5 170	5 174

Timing of satisfying performance obligations

MEUR	2019	2018
At a point in time		
Wärtsilä Marine Business	2 622	2 210
Wärtsilä Energy Business	1 105	1 531
Total	3 728	3 740
Over time		
Wärtsilä Marine Business	708	606

Wärtsilä Energy Business	735	828
Total	1 442	1 434
Total	5 170	5 174

Product sales consist of sales of spare parts and standard equipment for which the revenue is recognised at a point in time when the control of the products has transferred to customer, in general at the delivery of the goods.

Goods and services -type of revenue involves short-term field service jobs, which includes the delivery of a combination of service and equipment. The revenue is recognised at a point in time when service is rendered.

Projects contain short-term and long-term projects. Depending on the contract terms and the duration of the project, the revenue is recognised at a point in time or over time. Revenue related to long-term projects, such as construction contracts, integrated solutions projects, ship design, and energy solutions contracts, is recognised over time. Revenue for tailor-made equipment delivery projects is recognised at a point in time.

Long-term agreements contain long-term operating and maintenance agreements for which the revenue is recognised over time.

6. Other operating income

MEUR	2019	2018
Capital gains	15	32
Government grants	8	7
Sale of scrapped material	3	3
Sale of by-products	2	2
Rental income	1	
Income related to cancelled orders*	2	10
Insurance indemnities	9	4
Other	27	24
Total	67	80

* Expenses related to cancelled orders are recorded on respective expense accounts.

7. Material and services

MEUR	2019	2018
Purchases during the financial period	-1 723	-1 598
Change in inventories	7	40
External services	-1 287	-1 294
Total	-3 003	-2 852

8. Employee benefit expenses

MEUR	2019	2018
Wages and salaries	1 028	954
Pension costs		

Defined benefit plans	12	7
Defined contribution plans	74	71
Other compulsory personnel costs	146	142
Total	1 260	1 175

Management remuneration is specified in Note 32. Related party disclosures.

Long-term incentive schemes

Wages and salaries include EUR 4 million expenses arising from share based long-term incentive schemes (previous year positive impact EUR 21 million). At the end of 2019 Wärtsilä had three long-term incentive schemes active. These schemes are tied to the price development of the company's share during a pre-determined timeframe, and an upper limit is set for the payable incentive. When an incentive scheme ends and the employment requirement is fulfilled, the incentive is settled in cash (2017-2019 and 2018-2020 incentives schemes) or in company shares (2019-2021 incentive scheme). The Board of Management members shall acquire Wärtsilä shares with 50% of the net bonuses received, until the share ownership corresponding to the individuals' annual gross base salary level has been achieved.

The payment for incentive schemes is based on the share price development during a three-year period. The 2017-2019 incentive scheme comprises 4,332,000 rights, the 2018-2020 incentive scheme 3,609,000 rights and the 2019-2021 incentive scheme 5,108,000 rights. For the incentive scheme 2017-2019 the basis of a share price is EUR 16.19, for the incentive scheme 2018-2020 EUR 22.58 and for the incentive scheme 2019-2021 EUR 16.76. The incentive schemes take into account 100% of dividends paid, and the paid bonus cannot exceed EUR 6.07 per incentive right in the 2017-2019 scheme, EUR 8.47 in the 2018-2020 scheme or EUR 6.56 in the 2019-2021 scheme.

The incentive rights, which are settled in cash, are valued and recognised at fair value at the balance sheet date taking into account the proportion of vesting period passed. The incentive rights, which are settled in company shares, are valued at fair value at the grant date of the scheme and expensed evenly during the vesting period. The fair value determined for the incentive right in 2019-2021 scheme is EUR 2.69.

	2019	2018
Personnel on average	19 110	18 899
Personnel at the end of the financial period	18 795	19 294

9. Depreciation, amortisation and impairment

MEUR	2019	2018
Development expenses	11	11
Purchase price allocation amortisation	41	43
Other intangible assets	10	12
Buildings and structures	13	16
Land and buildings, right-of-use assets	43	
Machinery and equipment	40	43
Machinery and equipment, right-of-use assets	6	
Other tangible assets	1	1
Impairments	15	3
Total	180	130

10. Other operating expenses

MEUR	2019	2018
Travel costs	134	145
Rental costs	48	90

Legal and consultancy costs	95	89
Information technology costs	65	61
Other personnel related costs	59	58
Administrative costs	49	51
Other	128	153
Total	578	648

11. Financial income and expenses

MEUR	2019	2018
Interest income on loans and receivables	1	2
Interest income on financial assets at fair value through the statement of income	23	20
Interest income on investments at amortised cost	2	1
Other financial income	1	1
Total financial income	27	24
Interest expenses on financial liabilities recognised at amortised cost	-10	-11
Interest expenses on lease liabilities recognised at amortised cost	-5	
Interest expenses on financial liabilities at fair value through the statement of income	-36	-34
Net interest from defined benefit plans	-3	-3
Changes in fair values of financial assets/liabilities at fair value through the statement of income	-5	-4
Write-down of financial receivables		-1
Exchange rate differences*	-10	-6
Fee expenses	-2	-2
Other financial expenses	-4	-4
Total financial expenses	-74	-65
Total	-47	-40

* In 2019, the result from the ineffective portion of cash flow hedges related to cancelled orders, EUR -5 million (-2), and exchange rate differences from unhedged internal loans, EUR -8 million (-5) were included in exchange rate differences in the consolidated statement of income.

12. Income taxes

MEUR	2019	2018
Income taxes		
for the financial period	-130	-126
for prior financial periods	-8	1
Change in deferred tax		
origination and reversal of temporary differences	43	10
changes in tax rates	-2	1
Total	-97	-116
Reconciliation of effective tax rate:		
Profit before taxes	315	502

Tax calculated at the domestic corporate tax rate 20.0%	-63	-100
Effect of changed tax rates	-2	1
Effect of different tax rates in foreign subsidiaries	15	6
Effect of income not subject to tax and non-deductible expenses	-1	2
Effect of share of result of associates and joint ventures	-2	3
Utilisation of previously unrecognised tax losses carried forward	1	
Unrecognised taxes on losses carried forward	-13	-17
Other taxes*	-10	-10
Other temporary differences**	-13	-1
Income taxes for prior financial periods	-8	1
Tax charge in the consolidated statement of income	-97	-116
Effective tax rate (%)	30.7	23.1

* Other taxes consist mainly of withholding taxes not utilised and taxes not directly based on taxable income.

** Includes EUR -11 million utilisation of deferred tax assets.

Income taxes related to other comprehensive income are presented in Consolidated statement of comprehensive income. Changes in deferred tax assets and liabilities are presented in Note 24. Deferred taxes.

Wärtsilä is subject to tax audits in some countries, which can result in tax reassessment decisions and obligations to pay additional taxes and related payments.

13. Earnings per share

Earnings per share is calculated by dividing the profit for the financial period attributable to equity holders of the parent company by the adjusted average number of shares outstanding. During the financial periods there were no programmes with dilutive effect.

MEUR	2019	2018
Profit for the financial period attributable to equity holders of the parent company	217	386
Thousands of shares		
adjusted average number of shares outstanding*	591 723	591 723
Earnings per share attributable to equity holders of the parent company (basic and diluted):		
Earnings per share (EPS), basic and diluted, EUR	0.37	0.65

* Additional information on the number of shares is presented in Note 26. Equity.

14. Intangible assets

Goodwill 2019

MEUR	2019
Wärtsilä Group	
Wärtsilä on 1 January	1 355
Acquisitions	-1
Changes in exchange rates	26
Total	1 380

Goodwill allocation

Goodwill arising from business acquisitions is allocated to the Group cash generating units (CGU) that are the Group's operating segments Wärtsilä Marine Business and Wärtsilä Energy Business. As of 1 January 2019 the goodwill formerly allocated to the Group CGU has been allocated to the respective CGUs based on the fair value of the operating segments. The operating segments represent the lowest level within the Group at which the goodwill is monitored. The companies acquired during the financial period are integrated to the the respective CGU at the acquisition date. The goodwill per CGU is presented in the table below.

Goodwill per cash generating unit

MEUR	2019
Wärtsilä Marine Business	847
Wärtsilä Energy Business	533
Total	1 380

Impairment testing of goodwill

The Group performs its annual impairment testing of goodwill on 30 September. Impairment of goodwill is also carried out when changes in circumstances indicate that the carrying amount may not be recoverable.

The recoverable amount from the CGUs is determined based on value-in-use calculation. The calculation is made on a discounted cash flow method basis, derived from the order book and five-year cash flow projections from management approved strategic plans. The estimated cash flow of the CGUs is based on utilisation of the existing property, plant and equipment in their current condition with normal maintenance capital expenditure, excluding any potential future acquisitions. Cash flow beyond the five-year period is calculated using the terminal value method. The terminal growth rate used in projections is based on management's assessment on conservative long-term growth. The terminal growth rate used is 2%.

The key driver for the valuation is the growth in the global economy and in particular the development of the global power market, the global shipbuilding industry and the demand for related services. The projected development of total costs in the market affects the profitability, whereas no single cost item is considered to have a material impact. The valuation driver for the new equipment sales is the growth in the global economy, whereas for after sales the drivers are also the demand for related services and the projected development in labour cost.

The applied discount rates are the weighted average pre-tax cost of capital (WACC) for each CGU as defined by Wärtsilä. The components of the WACC rates are risk-free rate, market risk premium, industry specific beta, cost of debt and debt equity ratio. Wärtsilä has used a WACC rate of 9.1% in the calculations for Wärtsilä Marine Business CGU and a WACC rate of 9.4% for Wärtsilä Energy Business CGU.

As a result of the impairment test, no impairment loss for the CGUs was recognised for the financial period ended 31 December 2019. The recoverable amounts from both the CGUs exceeded their respective carrying value substantially.

Sensitivity analysis

The management has assessed that no reasonable possible changes in the key assumptions would cause carrying amount of either CGU to exceed its recoverable amount. Sensitivity analysis has been carried out for the valuation of the recoverable amount for each CGU by changing the assumptions used in the calculation. A change in an assumption that would cause the recoverable amount to equal the carrying amount is presented in the table below separately for each CGU.

	Change
Wärtsilä Marine Business	
Pre-tax discount rate	increase more than 15 percentage points
Terminal growth rate	decrease more than 35 percentage points
Profitability	decrease more than 66 percentage
Wärtsilä Energy Business	
Pre-tax discount rate	increase more than 13 percentage points
Terminal growth rate	decrease more than 28 percentage points
Profitability	decrease more than 64 percentage

In management's opinion, the changes in the basic assumptions shall not be seen as an indication that these factors are likely to materialise. The sensitivity analyses are hypothetical and should therefore be treated with caution.

Goodwill 2018

Goodwill allocation

Goodwill arising from business acquisitions is allocated to the Group cash generating unit (CGU) that is the Group's operating segment. The operating segment represents the lowest level within the Group at which the goodwill is monitored. The companies acquired during the financial period are integrated to the Group CGU at the acquisition date. Previously separately presented CGUs have also been integrated to the Group CGU during the financial period. The goodwill per CGU is presented in the table below:

Goodwill per cash generating unit

MEUR	2018
Wärtsilä on 1 January	1 237
Acquisitions and disposals	113
Changes in exchange rates	4
Total	1 355

Impairment testing of goodwill

The Group performs its annual impairment testing of goodwill on 30 September. Impairment of goodwill is also carried out when changes in circumstances indicate that the carrying amount may not be recoverable.

The recoverable amount from the CGU is determined based on value-in-use calculation. The calculation is made on a discounted cash flow method basis, derived from the order book and five-year cash flow projections from management approved strategic plans. The estimated cash flow of CGU is based on utilisation of the existing property, plant and equipment in their current condition with normal maintenance capital expenditure, excluding any potential future acquisitions. Cash flow beyond the five-year period is calculated using the terminal value method. The terminal growth rate used in projections is based on management's assessment on conservative long-term growth. The terminal growth rate used is 2%.

The key driver for the valuation is the growth in the global economy and in particular the development of the global power market, the global shipbuilding industry and the demand for related services. The projected development of total costs in the market affects the profitability, whereas no single cost item is considered to have a material impact. The valuation driver for the new equipment sales is the growth in the global economy, whereas for after sales the drivers are also the demand for related services and the projected development in labour cost.

The applied discount rate is the weighted average pre-tax cost of capital (WACC) as defined by Wärtsilä. The components of the WACC are risk-free rate, market risk premium, industry specific beta, cost of debt and debt equity ratio. When defining the WACC for 2018, it has been considered that the general interest rate is currently on a lower level. Wärtsilä has used a WACC of 8.9% in the calculations.

As a result of the impairment test, no impairment loss for the CGU was recognised for the financial period ended 31 December 2018. The recoverable amount from the CGU exceeded its carrying value remarkably.

Sensitivity analysis

The management has assessed that no reasonable possible changes in the key assumptions would cause the CGU's carrying amount to exceed its recoverable amount. Sensitivity analysis have been carried out for the valuation of the recoverable amount for the CGU by changing the assumptions used in the calculation. A change in an assumption that would cause the recoverable amount to equal the carrying amount is presented in the table below:

	Change
Pre-tax discount rate	increase more than 20 percentage points
Terminal growth rate	decrease more than 68 percentage points
Profitability	decrease more than 82 percentage

In management's opinion, the changes in the basic assumptions shall not be seen as an indication that these factors are likely to materialise. The sensitivity analyses are hypothetical and should therefore be treated with caution.

Intangible assets

2019

MEUR	Develop- ment expenses	Construc- tion in progress and advances paid	Other intangible assets	Goodwill	Total
Cost on 1 January 2019	141	53	857	1 361	2 411
Changes in exchange rates			11	26	37
Acquisitions			1	-1	
Additions	1	55	8		65
Decreases and other changes	-1		-13		-14
Reclassifications	28	-24	-4		
Cost on 31 December 2019	169	85	860	1 386	2 500
Accumulated amortisation and impairment on 1 January 2019	-94		-565	-6	-665
Changes in exchange rates			-7		-8
Accumulated amortisation on decreases and other changes			11		11
Amortisation during the financial period	-11		-52		-62
Accumulated amortisation and impairment on 31 December 2019	-104		-613	-6	-723
Carrying amount on 31 December 2019	65	85	247	1 380	1 776

Development costs for internally generated assets capitalised during the financial period amounted to EUR 49 million (30). The carrying amount was EUR 135 million (91).

Purchase price allocation amortisation amounted to EUR 41 million (43) and the carrying amount was EUR 209 million (248).

2018

MEUR	Develop- ment expenses	Construc- tion in progress and advances paid	Other intangible assets	Goodwill	Total
Cost on 1 January 2018	142	21	783	1 243	2 189
Changes in exchange rates			-2	4	2
Acquisitions and disposals	-2	10	66	113	187
Additions	2	35	8	1	45
Decreases and other changes			-12	-1	-13
Reclassifications		-13	13		
Cost on 31 December 2018	141	53	857	1 361	2 411
Accumulated amortisation and impairment on 1 January 2018	-85		-521	-6	-612
Changes in exchange rates			1		1
Accumulated amortisation on decreases and other changes	2		12	1	15
Amortisation during the financial period	-11		-55		-66
Impairments			-1	-1	-2
Accumulated amortisation and impairment on 31 December 2018	-94		-565	-6	-665
Carrying amount on 31 December 2018	47	53	292	1 355	1 747

15. Property, plant and equipment

2019

MEUR	Land and water	Build- ings and struc- tures	Machin- ery and equip- ment	Construc- tion in progress and advances paid	Other tangible assets	Total
Cost on 1 January 2019	31	297	780	40	24	1 171
Transfer to right-of-use assets		-1	-1			-2
Changes in exchange rates		1	2			3
Additions		3	27	18	1	49
Decreases	-1	-18	-30			-50
Reclassifications		1	22	-25		-2
Cost on 31 December 2019	30	283	798	32	25	1 167
Accumulated depreciation and impairment on 1 January 2019	-1	-177	-648		-21	-847
Changes in exchange rates			-1			-1
Accumulated depreciation on decreases		11	29			41
Depreciation during the financial period		-13	-40		-1	-54
Impairments			-1			-1
Accumulated depreciation and impairment on 31 December 2019	-1	-179	-659		-21	-860

Carrying amount on 31 December 2019	29	104	139	31	3	307
2018						
MEUR	Land and water	Buildings and structures	Machinery and equipment	Construction in progress and advances paid	Other tangible assets	Total
Cost on 1 January 2018	43	313	787	18	23	1 185
Changes in exchange rates		-1	-1			-3
Acquisitions and disposals	-9	-22	-19			-50
Additions	1	5	23	35		64
Decreases	-4	-4	-22			-30
Reclassifications		7	12	-14		5
Cost on 31 December 2018	31	297	780	40	24	1 171
Accumulated depreciation and impairment on 1 January 2018	-2	-172	-642		-20	-835
Changes in exchange rates		1	1			1
Accumulated depreciation on decreases and disposals	1	11	41			53
Depreciation during the financial period		-16	-43		-1	-60
Impairments			-2			-2
Reclassifications		-1	-4			-5
Accumulated depreciation and impairment on 31 December 2018	-1	-177	-648		-21	-847
Carrying amount on 31 December 2018	30	120	132	39	3	324
Value of finance-leased assets included in carrying amount		1	1			3

16. Leases

MEUR	2019
Land and buildings, right-of-use assets	
Carrying amount on 1 January 2019	203
Additions	28
Depreciation and impairment	-43
Decreases and reclassifications	-14
Carrying amount on 31 December 2019	174
Machinery and equipment, right-of-use assets	
Carrying amount on 1 January 2019	12
Additions	6
Depreciation and impairment	-6
Decreases and reclassifications	-1
Carrying amount on 31 December 2019	11

Lease liabilities	
Carrying amount on 1 January 2019	215
Additions	33
Interest expense	2
Payments	-49
Other adjustments	-13
Carrying amount on 31 December 2019	188
Total lease liabilities	
Non-current	146
Current	42

MEUR	2019
Amounts recognised in statement of income	
Depreciation and impairment of right-of-use assets	-49
Interest expense	-5
Expense – short-term leases	-32
Expense – leases of low-value assets	-6
Expense – variable lease payments	-4

17. Investments in associates and joint ventures

MEUR	2019	2018
Carrying amount on 1 January	66	83
Investments		1
Share of result	-9	13
Dividends	-1	-17
Translation differences	-1	-1
Reduction of share capital in associates and joint ventures		-13
Impairment	-13	
Carrying amount on 31 December	42	66

Summary of financial information (100%):

2019

MEUR		Holding %	Assets	Equity	Liabilities	Net sales	Profit for the financial period
Joint ventures							
Wärtsilä Qiyao Diesel Company Ltd.	China	50.0	39	19	20	30	2
Wärtsilä Hyundai Engine Co Ltd.	South Korea	50.0	71	68	3	19	-21
CSSC Wärtsilä Electrical & Automation Co., Ltd.	China	49.0	11	2	9	9	
CSSC Wärtsilä Engine (Shanghai) Co., Ltd.	China	49.0	96	20	76	78	1
Repropel Sociedad de reparacao de helices	Portugal	50.0	1	1		1	
Associated companies							
Wärtsilä Land & Sea Academy, Inc.	Philippines	40.0		-2	2		

Neptun Maritime AS	Norway	40.0	1	1
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CSSC Wärtsilä Engine (Shanghai) Co., Ltd. factory is manufacturing medium and large bore medium speed diesel and dual-fuel engines at Lingang, Shanghai. Wärtsilä Hyundai Engine Co Ltd. manufactures Wärtsilä 50DF dual-fuel engines for LNG carriers and other marine application in Mokpo, South Korea. Wärtsilä Qiyao Diesel Company Ltd. manufactures marine auxiliary engines in Shanghai, China. CSSC Wärtsilä Electrical & Automation Co., Ltd. manufactures advanced electrical and automation solutions for cruise industry.

2018

MEUR		Holding %	Assets	Equity	Liabilities	Net sales	Profit for the financial period
Joint ventures							
Wärtsilä Qiyao Diesel Company Ltd.	China	50.0	26	19	8	17	
Wärtsilä Hyundai Engine Co Ltd.	South Korea	50.0	111	91	20	164	29
CSSC Wärtsilä Electrical & Automation Co., Ltd.	China	49.0	2	2	1		-1
CSSC Wärtsilä Engine (Shanghai) Co., Ltd.	China	49.0	70	19	51	49	-3
Repropel Sociedad de reparacao de helices	Portugal	50.0	1	1	1	1	
Associated companies							
Wärtsilä Land & Sea Academy, Inc.	Philippines	40.0		-2	2		
Neptun Maritime AS	Norway	40.0	1	1		1	

18. Financial assets and liabilities by measurement category

2019

MEUR	Measured at amortised cost	At fair value through the statement of income	At fair value through other comprehensive income	Carrying amounts of the statement of financial position items	Fair value
Non-current financial assets					
Interest-bearing investments		1		1	1
Trade receivables	19			19	19
Derivatives		5		5	5
Other investments		18		18	18
Other receivables	2			2	2
Current financial assets					
Trade receivables	1 232			1 232	1 232
Trade receivables for sale		4		4	4
Derivatives		5	14	18	18
Other financial receivables	6			6	6
Cash and cash equivalents	343*	15		358	358
Carrying amount by measurement category	1 600	48	14	1 662	1 662
Non-current financial liabilities					
Interest-bearing debt	997			997	1 005
Derivatives		14	2	16	16
Current financial liabilities					
Interest-bearing debt	99			99	99

Trade payables	624			624	624
Derivatives		1	6	7	7
Other financial liabilities	4			4	4
Carrying amount by measurement category	1 724	15	8	1 747	1 756

* In addition, the Group has cash and cash equivalents measured at amortised cost of EUR 11 million related to assets held for sale.

2018

MEUR	Measured at amortised cost	At fair value through the statement of income	At fair value through other comprehensive income	Carrying amounts of the statement of financial position items	Fair value
Non-current financial assets					
Interest-bearing investments		3		3	3
Trade receivables	49			49	49
Derivatives		3		3	3
Other investments		16		16	16
Other receivables	20			20	20
Current financial assets					
Trade receivables	1 219			1 219	1 219
Trade receivables for sale		3		3	3
Derivatives		5	3	8	8
Other financial receivables	3			3	3
Cash and cash equivalents	466	21		487	487
Carrying amount by measurement category	1 758	52	3	1 813	1 813
Non-current financial liabilities					
Interest-bearing debt	748			748	754
Derivatives		16		16	16
Current financial liabilities					
Interest-bearing debt	74			74	74
Trade payables	596			596	596
Derivatives		27	36	63	63
Other financial liabilities	9			9	9
Carrying amount by measurement category	1 428	43	36	1 507	1 513

Fair value hierarchy

Financial instruments measured at fair value are classified according to the following fair value hierarchy: instruments measured using quoted prices in active markets (level 1), instruments measured using inputs other than quoted prices included in level 1 observable either directly or indirectly (level 2), and instruments measured using inputs that are not based on observable market data (level 3). Financial instruments measured at fair value include financial assets and liabilities at fair value through the statement of income. Due to the short nature of the current receivables, their carrying amount is considered to be same as their fair value.

Specific valuation techniques used to value financial instruments include:

- the fair value of forward foreign exchange contracts is determined by using forward rates at the closing date
- the fair value of interest rate swaps is calculated as the present value of the estimated future cash flows based on observable yield curves
- the use of quoted market prices or dealer quotes for similar instruments

MEUR	2019		2018	
	Level 2	Level 3	Level 2	Level 3
Financial assets				
Other investments		18		16
Interest-bearing investments, non-current	1		3	
Other receivables, non-current	2		3	
Derivatives	24		12	
Financial liabilities				
Interest-bearing debt, non-current*	1 005		754	
Derivatives	23		79	

* Measured at amortised cost in the consolidated statement of financial position.

Additional information on financial liabilities is presented in Note 28. Financial liabilities.

Other investments

Other investments include unlisted shares carried at fair value. These investments are valued using certain DCF models where critical assumptions relate to WACC level and expected cash flows from future dividends. However, the results from different scenarios vary a lot. Thus, the management considers that the valuation at amortised cost is the best estimate of fair value.

MEUR	2019	2018
Carrying amount on 1 January	16	13
Acquired shares	2	3
Carrying amount on 31 December	18	16

In 2019, the cost for other unlisted shares (level 3) was EUR 18 million (16), and the market value of them was EUR 18 million (16).

19. Inventories

MEUR	2019	2018
Materials and consumables	484	471
Work in progress	736	615
Finished products	53	35
Advances paid	93	43
Total	1 365	1 165

In 2019, EUR 4 million (1) impairment for obsolete inventories has been recognised in the consolidated statement of income. Acquisition-related increase in inventories is EUR 1 million (8).

In 2019, the principles for estimating inventory write-down have been adjusted. The current principles are based on a range of coverage, which specifies how long the available quantity of material at a certain date or period can cover the requirements in a subsequent period. In 2019, the total impact is EUR 11 million from the change of write-down estimates to the value of the inventories.

20. Contract balances

MEUR	2019	2018
Trade receivables	1 255	1 271
Contract assets	515	557
Contract liabilities		
Advances received	452	584
Deferred income	465	345
Trade receivables and contract assets		
Non-current	19	49
Current	1 752	1 779
Contract liabilities		
Non-current	38	41
Current	880	888
Revenue recognised in the financial period that was included in the contract liability on 1 January	888	724
Unsatisfied performance obligations, all revenue types	7 427	7 242
of which remaining performance obligations from projects and contracts under execution	3 959	3 794

Trade receivables related to contracts with customers are non-interest-bearing receivables. Trade receivables have decreased during 2019 due to reclassification to assets held for sale as well as through collection of overdue receivables.

Contract assets primarily relate to the Group's right to consideration for transferred goods or services, but which is not yet billed at the reporting date. The contract assets are transferred to receivables when the rights become unconditional.

The contract liabilities mainly relate to the advance consideration received from customers for contracts, but for which the corresponding good or service has not yet been transferred.

The contract assets and liabilities arise from long-term service agreements and projects recognised over time such as gas solutions construction contracts, integrated solutions projects, ship design, and energy solutions turnkey contracts. The decrease in contract assets in 2019 contains reclassification to assets held for sale and usual business-related variation mainly in Marine Business projects. In addition, the accrued revenue has decreased in long-term service agreements. The decrease in contract liabilities in 2019 arises from usual business-related variation in projects in both segments.

21. Other receivables

MEUR	2019	2018
Derivatives	24	12
Interest and other financial items	6	3
Insurance receivables	6	5
Rental accruals	3	3
Prepaid expenses	14	6
Other accruals	41	42
Loan receivables	2	3
Defined benefit plans	1	
VAT receivables	111	104
Other*	88	83
Total	296	262

Non-current	15	34
Current	281	228

* Other receivables includes payroll related tax receivables of EUR 9 million (9) in Brazil, which cannot be utilised likely within a year. Other receivables also includes a receivable of EUR 21 million (20) relating to disposal of pumps business. The receivable has been classified as current receivable in 2019.

22. Cash and cash equivalents

MEUR	2019	2018
Cash and bank balances*	343	461
Cash equivalents	15	26
Total	358	487

* EUR 171 million (128) of cash and bank balances relate to cash in countries where repatriation is limited due to local regulation and consequently the cash is not immediately available to the parent company.

In addition, the Group has cash and cash equivalents of EUR 11 million related to assets held for sale.

23. Net debt reconciliation

Net interest-bearing debt

MEUR	2019	2018
Interest-bearing debt, non-current	851	748
Lease liabilities, non-current	146	
Interest-bearing debt, current	58	74
Lease liabilities, current	42	
Total interest-bearing liabilities	1 096	823
Interest-bearing receivables	-1	-3
Cash and cash equivalents	-358	-487
Cash and cash equivalents pertaining to assets held for sale	-11	
Total interest-bearing assets	-370	-490
Total net interest-bearing debt	726	333

Net debt reconciliation

MEUR	Carrying amount on 1 January 2019	Cash flows	Changes in exchange rates	Other non-cash movements	Carrying amount on 31 December 2019
Interest-bearing debt, non-current	746*	104			851
Interest-bearing debt, current	73*	-11	-5		58
Lease liabilities	215**	-52		26	188
Interest-bearing receivables	-3	2			-1
Cash and cash equivalents	-487	119			-369***
Net debt	545	162	-5	26	726

* Finance lease liabilities have been classified in line with IFRS 16 separately under lease liabilities.

** Lease liabilities according to IFRS 16.

*** Includes cash and cash equivalents pertaining to assets held for sale.

MEUR	Carrying amount on 1 January 2018	Cash flows	Changes in exchange rates	Acquisitions and disposals	Carrying amount on 31 December 2018
Interest-bearing debt, non-current	517	231	-1		748
Interest-bearing debt, current	102	-40	-6	18	74
Interest-bearing receivables	-5	-2		6	-3
Cash and cash equivalents	-379	-101	4	-11	-487
Net debt	234	87	-2	13	333

24. Deferred taxes

Changes in deferred taxes during 2019

MEUR	1 January 2019	Recognised in the consolidated statement of income	Other comprehensive income	Translation differences	Acquisitions	31 December 2019
Deferred tax assets						
Tax loss carry-forwards	18	17			-1	34
Pension obligations	21	1	5			27
Provisions	28	7				35
Elimination of intragroup margin in inventories	5	1				6
Fair value reserve	9		-3			6
Other temporary differences	49	6			-1	55
Reclassification to assets held for sale						-8
Total	129	32	2		-2	155
Deferred tax liabilities						
Intangible assets and property, plant and equipment	66	-10		2		59

Fair value reserve			1			1
Other temporary differences	32					32
Reclassification to assets held for sale						-8
Total	99	-10	1	1		83
Net deferred tax assets/liabilities	30	41	1	-1	-2	72

On 31 December 2019, the Group had temporary differences on which no deferred tax assets were booked totalling EUR 64 million (63), as it is uncertain if they will be realised. Most of the unrecognised deferred tax assets are related to cumulative tax losses. Of these, EUR 29 million (18) will expire within the next five years and the rest will expire later or never. Most of the cumulative tax losses on which deferred tax assets have been booked will never expire.

Changes in deferred taxes during 2018

MEUR	1 January 2018	Recognised in the consolidated statement of income	Other comprehensive income	Translation differences	Acquisitions and disposals	31 December 2018
Deferred tax assets						
Tax loss carry-forwards	18				2	18
Pension obligations	23	-2				21
Provisions	30	-2				28
Elimination of intragroup margin in inventories	5					5
Fair value reserve	6		3			9
Other temporary differences	49	6		1	-7	49
Total	131	1	3	1	-6	129
Deferred tax liabilities						
Intangible assets and property, plant and equipment	57	-6			14	66
Fair value reserve	2		-2			
Other temporary differences	42	-2			-7	32
Total	102	-8	-2		7	99
Net deferred tax assets/liabilities	29	9	5	1	-13	30

25. Pension obligations

MEUR	2019	2018
Net defined benefit liabilities on 31 December	155	149
Liability for other long-term employee benefits on 31 December	15	13

Wärtsilä has defined benefit plans for its employees mainly in Europe and Asia. The major plans are located in Switzerland, Germany, Great Britain and Sweden. The Swiss defined benefit plan accounts for 31% of the Group's total defined benefit obligations and 55% of the plans' assets. Most of the plans provide a lifetime pension to the members at the normal retirement age but there are also plans, which provide a lump sum payment at the retirement date. Most of these defined benefit pension plans are managed by pension funds. Their assets are not included in the Group's assets. The plans' assets are typically invested according to the investment strategies approved by the funds' Board of Trustees, or in some cases they are completely administered by insurance companies. Wärtsilä's subsidiaries make their payments to pension funds in accordance with the local legislation and practice. Authorised actuaries in each country have performed the actuarial calculations required for the defined benefit plans.

The Swiss Plan

Wärtsilä operates a defined benefit plan in Switzerland in accordance with the local pension laws and regulations. The plan provides benefits to the members in the form of a pension payable after retirement. The level of benefits provided depends on the accrued retirement savings capital, which is a result of contributions paid up to retirement plus respective interest. The plan is run as a pension fund by the Board of Trustees separately from the company.

Contributions to the plan are paid both by the employees as well as by the employers based on a percentage of the insured salary as defined in the pension fund regulations. Contributions by the employers vary depending on the age of the employee and cover on average two thirds of the total contributions.

The investment strategy for a pension fund's asset is the responsibility of the Board of Trustees. Assets are invested in accordance with the strategy and the corridors for different investment categories as defined by local laws. Other risks of the plan are longevity of plan members as well as death or disability of employees before their retirement. The pension plan is reinsured for the risk of death and disability until 31 December 2019. Inflationary increases for pensions in payment are at the discretion of the Board of Trustees as benefits paid by the plan are exceeding the minimum level required by law.

The German Plans

Wärtsilä operates defined benefit plans in Germany in accordance with the local pension laws and regulations. The plans provide benefits to the members in the form of a pension payable after retirement. The level of benefits provided depends on the accrued retirement savings capital, which is a result of contributions paid up to retirement plus respective interest. The plans vary from unfunded plans to a plan run as a pension fund.

In some of the plans, contributions are paid to the plan both by the employees and the employers based on a percentage of the insured salary as defined in the pension fund regulations. However, in some plans only the employer is obliged to make the payments. Contributions by the employers vary depending on the age of the employee, the duration of the employment and also on the position of the employee.

The main risks of the plans are longevity of plan members and death or disability of employees before their retirement. In a funded plan, also the investment strategy chosen includes certain risk. Inflationary increases for pensions in payment are valued on a yearly basis.

MEUR	2019	2018
Present value of unfunded defined benefit obligations	119	108
Present value of funded defined benefit obligations	182	177
Fair value of plan assets	-146	-135
Net liability in the statement of financial position	155	149

%	Present value of defined benefit obligations	Fair value of plan assets
Switzerland	31	55
Germany	23	5
Other Europe	37	28
Asia	9	12
Total	100	100

MEUR	Present value of defined benefit obligation	Fair value of plan assets	Net defined benefit liability
Balance on 1 January 2018	307	-154	154
Changes in exchange rates	2	-2	-1
Recognised in the statement of income:			
Current service cost	10		10
Past service cost	-1		-1

Gains (-) / losses (+) on curtailments and settlements	-21	20	-2
Interest cost (+) / interest income (-)	5	-3	3
Remeasurements recognised in other comprehensive income:			
Return on plan assets, excluding interest income		11	11
Experience adjustments	-6		-6
Changes in financial assumptions	-2		-2
Contribution paid by the plan members	1	-1	
Contribution paid by the employer		-11	-11
Benefits paid	-13	5	-8
Balance on 31 December 2018	282	-134	149

Balance on 1 January 2019	282	-134	149
Changes in exchange rates	5	-4	
Recognised in the statement of income:			
Current service cost	13		13
Gains (-) / losses (+) on curtailments and settlements	-1		-1
Interest cost (+) / interest income (-)	5	-2	3
Remeasurements recognised in other comprehensive income:			
Return on plan assets, excluding interest income		-11	-11
Experience adjustments	1		1
Changes in demographic assumptions	-1		-1
Changes in financial assumptions	30		30
Contribution paid by the plan members	1	-1	
Contribution paid by the employer		-10	-10
Benefits paid	-21	10	-12
Reclassification to assets held for sale	-15	7	-8
Balance on 31 December 2019	299	-146	155

Plan assets invested in:

%	2019	2018
Shares and other equity instruments	18	17
Bonds and other debt instruments	35	33
Property	17	17
Other assets	30	33

The main actuarial assumptions at the end of the financial period are (expressed as weighted averages):

%	2019	2018
Discount rate	1.08	1.78
Future salary growth	2.03	2.16
Future pension growth	1.14	1.18

On 31 December 2019, the weighted average duration of the defined benefit obligation was 12 years. The Group expects to contribute EUR 7 million to the plans during the next financial period.

Assumptions regarding future mortality are set based on actuarial advice in accordance with the published statistics and experience in each country. These assumptions translate into a weighted average life expectancy in years for a pensioner at the retirement age as follows:

	2019	2018
Plan participants retiring at the end of the financial period:		
Male	17.4	17.0
Female	20.0	17.1
Plan participants retiring 20 years after the end of the financial period:		
Male	18.4	16.1
Female	20.4	18.1

The following table presents a sensitivity analysis for each significant actuarial assumption showing how the defined benefit obligation would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the end of the financial period. This sensitivity analysis applies to the defined benefit obligation only and not to the net defined benefit pension liability in its entirety.

Sensitivity analysis

	Change in assumption	Effect to defined benefit obligation, MEUR	
		2019	2018
Discount rate	increase 1%	-41	-33
Discount rate	decrease 1%	51	41
Future salary growth	increase 1%	10	9
Future salary growth	decrease 1%	-8	-8
Future pension growth	increase 1%	30	25
Future pension growth	decrease 1%	-16	-15

26. Equity

Equity consists of share capital, share premium, translation differences, fair value reserve, remeasurements of defined benefit liabilities and retained earnings.

Share capital and number of shares

MEUR				
	Number of shares and votes	Share capital	Share premium	Total
Share capital				
1 January 2018	197 241 130	336	61	397
Share issue without payment on 12 March 2018	394 482 260			
31 December 2018	591 723 390	336	61	397
31 December 2019	591 723 390	336	61	397

Wärtsilä's share does not have a nominal value. Wärtsilä has one series of shares. Each share is assigned one vote in the Annual General Meeting and has equal right to dividend.

Share Capital

The subscription price of a share received by the company in connection with share issues is credited to the share capital, unless it is provided in the share issue decision that a part of the subscription price is to be recorded in the fund for invested non-restricted equity.

Share Premium

Share premium is restricted equity. It may be reduced in accordance with the rules applying to decreasing share capital in accordance with the Finnish Limited Liability Companies Act. It can also be used to increase the share capital.

Translation differences

Translating foreign subsidiaries' financial statements by using different exchange rates in the statement of comprehensive income and in the statement of financial position causes translation differences, which are recognised in equity. Translation differences of foreign subsidiaries' acquisition cost eliminations and post acquisition gains and losses are also presented in equity. Also translation differences arising from subsidiary net investment and non-current subsidiary loan without agreed settlement dates are presented in equity. The change in translation differences is recognised in other comprehensive income.

Fair value reserve

Fair value reserve includes the changes in fair value of derivative financial instruments, if the hedging is effective and eligible for hedge accounting. The changes in items included in fair value reserve are recognised in other comprehensive income.

MEUR	Cash flow hedges
Difference between fair value and carrying amount on 1 January 2018	-14
Taxes related to fair value adjustments	3
Fair value reserve on 1 January 2018	-10
Transferred to the statement of income, net of taxes	-6
Fair value adjustments	-17
Taxes related to fair value adjustments	3
Fair value reserve on 31 December 2018	-31
Transferred to the statement of income, net of taxes	16
Fair value adjustments	4
Fair value reserve on 31 December 2019	-11

Parent company's distributable funds

After the balance sheet date, the Board of Directors proposed that a dividend of EUR 0.48 per share be paid for the financial period 2019, total dividend payable being EUR 284 million. The remaining part of the retained profits will be carried further in the unrestricted equity. For the profit for the financial period 2018, a dividend of EUR 0.48 per share was distributed, totalling EUR 284 million, and the rest of the retained profits were carried further in the unrestricted equity.

Additional information on equity is presented in Notes to the parent company financial statements, in Note 10. Shareholders' equity.

27. Provisions

2019

MEUR	Litigation	Warranties	Onerous contracts	Restructuring	Other provisions	Total
Provisions on 1 January 2019	21	172	67	7	38	305
Changes in exchange rates						1

Additions	4	52	100	20	14	190
Used provisions	-14	-51	-71	-13	-9	-159
Released provisions	-1		-7	-2	-5	-14
Provisions on 31 December 2019	10	174	89	13	38	323
Non-current						45
Current						278

2018

MEUR	Litigation	Warranties	Onerous contracts	Restructuring	Other provisions	Total
Provisions on 1 January 2018	19	173	27	6	35	261
Acquisitions		1	1	1		3
Additions	12	60	107	9	11	198
Used provisions	-2	-62	-64	-6	-5	-138
Released provisions	-9		-5	-4	-4	-21
Provisions on 31 December 2018	21	172	67	7	38	305
Non-current						54
Current						251

Warranty provisions include estimated future warranty costs relating to products delivered. The amount of future warranty costs is based on accumulated historical experience. The standard warranty period is one year from the delivery onwards.

The Group is a defendant in a number of legal cases which arise out of, or are incidental to, the ordinary course of its business. These lawsuits concern mainly issues such as contractual and other liability, labour relations, property damage and regulatory matters. The Group receives from time to time claims of different amounts and with varying degrees of substantiation. There is currently one unusually sizeable claim, but it is highly unlikely that the outcome of it would be unfavourable. The claim is treated as a contingent liability as it is the Group's policy to provide for amounts related to the claims as well as for the litigation and arbitration matters when an unfavourable outcome is probable and the amount of loss can be reasonably estimated.

28. Financial liabilities

2019

MEUR	Current Non-current				Total
	< 1 year	1–3 years	3–5 years	> 5 years	
Loans from other financial institutions*	56	263	258	328	906
Lease liabilities	48	65	37	64	215
Other interest-bearing debt*	2				2
Trade payables	624				624
Derivatives**	7	10	5	2	23
Other liabilities	4				4
Total	741	339	301	392	1 774
* Estimated interest expenses, total	8	12	8	3	31
Estimated contractual cash flows	748	351	309	395	1 804

2018

MEUR	Current Non-current				Total
	< 1 year	1–3 years	3–5 years	> 5 years	
Loans from other financial institutions*	63	186	311	250	809
Finance lease liabilities*	1	2			2
Other interest-bearing debt*	11				11
Trade payables	596				596
Derivatives**	63	12	3		79
Other liabilities	9				9
Total	744	199	314	250	1 507
* Estimated interest expenses, total	8	13	11	7	39
Estimated contractual cash flows	752	212	326	257	1 546

** Valuation for derivatives with negative market value by maturity date. Nominal contractual amounts are presented in Note 30. Derivative financial instruments.

Interest expenses for long-term loans are calculated by using the average interest rate prevailing on 31 December 2019. Fair values of financial liabilities are presented in Note 18. Financial assets and liabilities by measurement category.

29. Other liabilities

MEUR	2019	2018
Accrued expenses	320	295
Personnel costs	125	124
Derivatives	23	79
Interest and other financial items	4	9
Other accruals	41	45
VAT liabilities	39	26
Other	70	67
Total	623	645
Non-current	1	1
Current	622	645

30. Derivative financial instruments

The Group applies hedge accounting to significant foreign currency forward contracts. Detailed financial information is presented in Note 33. Financial risks.

MEUR	2019	of which closed	2018	of which closed
Nominal values of derivative financial instruments (level 2)				
Interest rate swaps	400		270	
Cross currency swaps	246		238	
Currency forwards, included in hedge accounting	1 769	873	1 227	314

Currency forwards, no hedge accounting	597	213	1 600	721
Total	3 012	1 086	3 335	1 035
Fair values of derivative financial instruments (level 2)				
Interest rate swaps	-7		-4	
Cross currency swaps	-4		-8	
Currency forwards, included in hedge accounting	8		-22	
Currency forwards, no hedge accounting	4		-33	
Total			-67	

In addition, the Group had copper futures and swaps amounting to 173 tons (264) valued at EUR 1 million (1).

Foreign currency forward contracts are against transactional risks and fall due during the following 12 months (12). A currency forward is considered closed when there are offsetting cash flows in the same currency with the same value date. Interest rate swaps are denominated in euros and their average maturity is 69 months (48). The average maturity for cross currency swaps is 41 months (54).

Normally all of the Groups' derivatives are done under International Swaps and Derivatives Association's Master Agreements (ISDA). In case of an event of default under these agreements the non-defaulting party may request early termination and set-off of all outstanding transactions. These agreements do not meet the criteria for offsetting in the statement of financial position. The following table sets out the carrying amounts of recognised financial instruments that are subject to the above agreements.

MEUR	2019	2018
Gross fair values of derivative financial instruments subject to ISDAs		
Assets		
Cross currency swaps	5	3
Currency forwards	18	8
Total	24	12
Liabilities		
Interest rate swaps	-7	-4
Cross currency swaps	-9	-11
Currency forwards	-7	-63
Total	-23	-79
Net fair values of derivative financial instruments subject to ISDAs		
Assets	8	
Liabilities	-8	-67
Total		-67

31. Collateral, contingent liabilities and other commitments

MEUR	2019		2018	
	Debt in the statement of financial position	Collateral	Debt in the statement of financial position	Collateral
Mortgages given as collateral for liabilities and commitments				
Other commitments	18	10	15	10
Total	18	10	15	10

Chattel mortgages and other pledges and securities given as collateral for liabilities and commitments				
Loans from credit institutions	5	1	8	2
Other commitments		21		17
Total	5	22	8	19

MEUR		2019	2018
Guarantees and contingent liabilities			
on behalf of Group companies		718	775
Total		718	775

Nominal amounts of rents according to leasing contracts*			
Payable within one year			53
Payable between one and five years			148
Payable later			83
Total			284

Nominal amounts of lease liabilities			
Low-value lease liabilities		3	
Short-term lease liabilities		5	
Leases not yet commenced, but to which Wärtsilä is committed		143	
Total		151	

* Due to the implementation of IFRS 16, lease liabilities have been included in the consolidated statement of financial position starting from financial period 2019.

32. Related party disclosures

Related parties comprise the Board of Directors, the President and CEO, the Board of Management, the associated companies, and joint ventures.

Management remuneration

	Benefits recognised in the statement of income	
TEUR	2019	2018
President and CEO		
Salaries and other short-term benefits	894	862
Share based bonuses*		-1 742
Statutory pension costs	123	119
Voluntary pension costs	179	170
Deputy of President and CEO		
Salaries and other short-term benefits		384
Share based bonuses*		-871
Statutory pension costs		115
Voluntary pension costs		107

Other members of the Board of Management		
Salaries and other short-term benefits	2 371	2 263
Share based bonuses*		-5 716
Statutory pension costs	305	315
Voluntary pension costs	342	368
Total	4 214	-3 627
Board of Directors on 31 December 2019		
Mikael Lilius, Chairman	172	175
Tom Johnstone, Deputy Chairman	117	119
Maarit Aarni-Sirviö, member	92	96
Kaj-Gustaf Bergh, member	81	82
Karin Falk, member	77	78
Johan Forssell, member	81	82
Risto Murto, member	91	94
Markus Rauramo, member	97	103
Total	806	829
Management remuneration, total	5 020	-2 798

* Share based bonuses are measured at fair value at the reporting date. Due to the development of Wärtsilä share price during 2018, impact to the result for the financial period was positive.

The holdings of Wärtsilä shares of the President and CEO, and the members of the Board of Directors and the Board of Management at year-end were 289,036 shares (304,439).

The President and CEO is entitled to retire on reaching 63 years of age. The members of the Board of Management are entitled to retire on reaching the statutory retirement age. One member of the Board of Management is entitled to retire earlier, on reaching 60 years of age. The Group has no loan receivables from the executive management or the Board of Directors. No pledges or other commitments have been given on behalf of management or shareholders.

Business transactions with the associated companies and joint ventures

MEUR	2019	2018
Sales to the associates and joint ventures	31	40
Purchases from the associates and joint ventures	35	27
Receivables from the associates and joint ventures	8	10
Advances paid to the associates and joint ventures	2	
Payables to the associates and joint ventures	5	7

Detailed financial information on the associated companies and joint ventures is presented in Note 17. Investments in associates and joint ventures.

33. Financial risks

General

Wärtsilä has a centralised Group Treasury with two main objectives: 1) to arrange adequate funding for the Group's underlying operations on competitive terms and 2) to identify and evaluate the financial risks within the Group and implement the hedges for the Group companies.

The objective is to hedge against unfavourable changes in the financial markets and to minimise the impact of foreign exchange, interest rate, credit and liquidity risks on the Group's cash reserves, profits and shareholders' equity.

The Financial Risk Policy is approved by the Board of Directors. The Group Treasury employs only such instruments whose market value and risk profile it can reliably monitor.

Foreign exchange risk

Foreign exchange exposures are monitored at the Business level, hedged at company level against the Group Treasury and then netted and covered externally at Group level by the Group Treasury. All material fixed sales and purchase contracts, including both future cash flows and related accounts receivable and payable, are hedged. The estimated future commercial exposures are evaluated by the Businesses, and the level of hedging is decided by the Board of Management. Hedge accounting in accordance with IFRS 9 is applied to most of the hedges of these exposures. The hedges cover such time periods that both the prices and costs can be adjusted to new exchange rates. These periods vary among Group companies from one month to two years. The Group also hedges its position of the statement of financial position, which includes cash balances, loans/deposits as well as other receivables and payables denominated in foreign currencies.

As field service work is invoiced in local currencies, there is some foreign exchange changes related volatility in the Group's turnover. However the effect to the profitability is limited as the related costs are in the same currency. Spare part sales are based on euro price list and related purchases in non-euro currencies are hedged, so effect from foreign currency rate changes to spare part sales is minimal. As both Marine and Energy Business project/hardware sales/purchases as well as estimated currency exposures from long-term agreements are hedged, the Group does not expect significant gains/losses from foreign exchange rate changes in 2020 related to its operations excluding internal financing.

Fixed sales and purchase contracts are usually hedged by using foreign exchange forwards to offset currency spot rate related changes to the value of the underlying cash flows. As the aim is to hedge and apply hedge accounting (cash flow hedging) only to the foreign exchange spot risk, all interest rate/hedge timing related gains/losses are booked directly into the financial items. As the underlying cash flows can have long maturities, the related hedges can be done with shorter maturities and they can be rolled over when needed, so that at the maturity the total currency rate related gains/losses from these hedges are expected to fully offset the related gains/losses from the underlying cash flows. Because the hedge relation is based on matching critical terms (except the timing), the hedge ratio is 1:1. A cancellation or reduction of sales/purchase value of an order can cause adjustment to the related hedge and any related gains/losses will be immediately recognised in the statement of income.

As external hedges are typically done on short maturities (up to 1 year) and only high credit quality (A- minimum rating requirement) counterparties are utilised, counterparty credit risk is expected to have minimal effect on hedge valuations. Due to some underlying hedged cash flows having longer maturities than related hedges the change in present value of the hedge and underlying cash flow does not always fully offset each other during the lifetime of a hedge. This ineffectiveness is calculated on quarterly basis and will be booked on Group level in financial items.

The instruments, and their nominal values, used to hedge the Group's foreign exchange exposures are listed in Note 30. Derivative financial instruments.

Since Wärtsilä has subsidiaries and joint ventures outside the euro zone, the Group's equity, goodwill and purchase price allocations are sensitive to exchange rate fluctuations. At the end of 2019, the net assets of Wärtsilä's foreign subsidiaries and joint ventures outside the euro zone totalled EUR 1,041 million (979). In addition, goodwill and purchase price allocations from acquisitions nominated in foreign currencies amounted to EUR 926 million (932). In 2019, the translation differences recognised in OCI mainly come from changes in GBP exchange rate.

In 2019, EUR 4 million (-14) fair value adjustments related to cash flow hedges were recognised in equity. EUR 19 million (-8) of the fair value adjustments were transferred from equity to the statement of income as net sales or operating expenses during 2019. In 2019, the result from ineffective portion of the cash flow hedges or gain/loss from cancelled projects was EUR -5 million (-2), which was booked in financial items and specified in Note 11. Financial income and expenses.

Approximately 67% (67) of sales and 59% (65) of operating costs in 2019 were denominated in euros, and approximately 20% (21) of sales and 10% (8) of operating costs were denominated in US dollars. The remainder were split between several currencies. The Group's profits and competitiveness are also indirectly affected by the home currencies of its main competitors: USD, GBP, JPY and KRW.

As Wärtsilä's operations are global they often involve currency risks. The largest operative currency positions (excluding financing) open as of 31 December 2019 by currency pair are listed below.

	Statement of financial position		Estimated cash flows		Net
	Base currency received	Base currency paid	Base currency received	Base currency paid	
MEUR					
EUR/USD	77	152	338	512	249
EUR/NOK	119	48	304	17	358
USD/NOK	50	14	72		108
EUR/CNY	32	26	70		76
EUR/GBP	24	18	8	71	56
EUR/JPY	11	7	9	25	12

As the main funding currency for Wärtsilä Group including the Group Treasury is euro and the subsidiaries are normally funded in their home currencies by the Group Treasury, the Group Treasury had the following related open currency positions as of 31 December 2019.

MEUR	Loans	Deposits	Net
Intragroup loans/deposits			
USD	35	391	356
GBP	48	93	46
CHF	103		103
AUD		52	52
NOK		41	41
SGD	1	32	31
CNY		13	13
CAD		11	11
Other currencies*	2	5	7
External loans			
JPY	246**		246
Total	435	639	906

* The other currencies do not net as they are of different currencies.

** External JPY loans are fully hedged with cross currency swaps.

Some Group companies in countries whose currencies are not fully convertible like Argentina, Brazil and Indonesia have unhedged, intercompany loans nominated either in EUR or USD, which may result in some foreign exchange differences. The total amount of these loans is EUR 192 million (178).

The open operative currency positions including financing are hedged by using derivative financial instruments according to the table below.

Currency forwards

MEUR	Against fixed sales and purchase contracts	Against net loans
Currency forwards		
USD	614	356
NOK	451	41

CHF	31	103
CNY	107	13
AUD	1	52
MXN	47	2
SGD	8	31
SEK	26	
CAD	13	11
Other currencies*	67	7
Total amount of currency derivatives	1 364	616

* Other currencies does not include any material single currencies.

Net loans include non-euro intragroup loans and deposits given by the parent company.

IFRS hedge accounting has been applied to EUR 2,448 million (2,355) currency forwards. A 5% change in the exchange rates would cause from these currency forwards an approximately EUR 74 million (60) impact on the equity. As all material fixed sales and purchase contracts are hedged, the profit and loss sensitivity of foreign exchange from operations (excluding internal financing) is considered minimal.

MEUR	Gross amount	Net amount	Equity impact
Both legs of currency forwards under hedge accounting*			
EUR	1 772	83	
USD	1 332	640	32
NOK	1 202	509	25
GBP	128	34	2
MXN	132	47	2
CNY	110	104	5
JPY	50	31	2
CHF	38	28	1
Other currencies	108	74	4
Total (single leg)	2 435	776	73

* Intragroup transactions, on which the actual hedge accounting bookings are based.

MEUR	
External currency forwards under hedge accounting by year	
2020	1 769
Hedged highly probable forecasted cash flows by year	
2020	1 977
2021	193
2022	71
2023	31
2024-	176

Interest rate risk

Wärtsilä is exposed to interest rate risk primarily through market value changes to the net debt portfolio (price risk) and also through changes in interest rates (re-fixing on rollovers). Interest rate risk is managed by constantly monitoring the market value of the financial instruments and by using sensitivity analysis.

Interest-bearing loan capital at the end of 2019 totalled EUR 908 million (823). The average interest rate was 0.9% (1.0) and the average re-fixing time 21 months (27).

Wärtsilä spreads its interest rate risk exposure by taking both fixed and floating rate loans. The share of fixed rate loans as a proportion of the total debt can vary between 30–70%. The Board of Directors has given authorisation to temporarily increase the share of fixed loans up to 100%, and the authorisation is valid until January 2022. Wärtsilä hedges its loan portfolio by using derivative instruments such as interest rate swaps, futures and options.

MEUR	2019	2018
Fixed rate loans	406	292
Floating rate loans	503	531
Derivatives	424	426
Share of fixed rate loans of total loans (including derivatives), %	91	87

At the end of 2019, a one percentage point parallel decrease/increase of the yield curve would have resulted in a EUR 28 million (24) increase/decrease in the value of the net debt portfolio, including derivatives. A one percentage point change in the interest level would cause a EUR 1 million (1) change in the following year's interest expenses of the debt portfolio, including derivatives.

Changes in the market value of interest rate derivatives are usually immediately recognised into the statement of income. However, cash flow hedge accounting in accordance with IFRS 9 is applied to a EUR 130 million amortising interest rate swap maturing in 2031. The interest rate hedge swaps variable interest payments of a large lease agreement to fixed. As the hedge and the underlying cash flow have matching critical terms, the hedge ratio is 1:1 and the hedge is expected to be 100% effective. In 2019, EUR 2 million fair value adjustment related to cash flow hedge was recognised in equity and no amounts have been reclassified to profit and loss.

Additional information related to loans can be found in Note 18. Financial assets and liabilities by measurement category and Note 28. Financial liabilities.

Liquidity and refinancing risk

Wärtsilä ensures sufficient liquidity at all times by efficient cash management and by maintaining sufficient committed and uncommitted credit lines available. Refinancing risk is managed by having a balanced and sufficiently long loan portfolio.

The existing funding programmes include:

- Committed Revolving Credit Facilities totalling EUR 640 million (640).
- Finnish Commercial Paper programmes totalling EUR 800 million (800).

The average maturity of the non-current debt is 46 months (49) and the average maturity of the confirmed credit lines is 30 months (31). Additional information in Note 28. Financial liabilities.

At year-end, the Group had cash and cash equivalents totalling EUR 369 million (487), of which EUR 11 million is related to assets held for sale, as well as EUR 640 million (640) non-utilised committed credit facilities. Commercial Paper Programmes were not utilised on 31 December 2019 nor on 31 December 2018.

Committed Revolving Credit Facilities as well as the parent company's long-term loans include a financial covenant (solvency ratio). Solvency ratio is expected to remain clearly over the covenant level for the foreseeable future.

Revolving credit facilities

MEUR

Year	Maturing	Available (end of period)
2019		640
2020	130	510
2021	130	380
2022	90	290
2023	160	130
2024	130	

Credit risk

The responsibility for managing the credit risks associated with ordinary commercial activities lies with the Businesses and the Group companies. Major trade and project finance credit risks are minimised by transferring risks to banks, insurance companies and export credit organisations.

The credit risks related to the placement of liquid funds and to trading in financial instruments are minimised by setting explicit limits for the counterparties and by making agreements only with the most reputable domestic and international banks and financial institutions. As only high credit quality (A- minimum rating requirement) counterparties are utilised for derivative financial instruments and the transactions are done under ISDA Master Agreements, no credit losses are expected from these instruments.

The Group companies deposit the maximum amount of their liquid financial assets with the centralised treasury when local laws and central bank regulations allow it. The Group's funds are placed in instruments with sufficient liquidity (current bank deposits or Finnish Commercial Papers) and rating (at least single-A rated instruments or other instruments approved by the Group's CFO). These placements are constantly monitored by the Group Treasury, and Wärtsilä does not expect any future defaults from the placements.

The expected credit losses associated with investments carried at amortised cost are assessed on a forward-looking basis based on investment maturity dates and counterparty credit risk on quarterly basis. As of 31 December 2019 the expected credit loss was not material.

Aging of trade receivables

For trade receivables and receivables from revenue recognised over time in accordance with the input method, simplified approach is used and the loss allowance is measured at the estimate of the lifetime expected credit losses. Receivables from revenue recognised over time in accordance with the input method are usually covered with advance payments collected from customers. Thus, recognising credit losses based on the lifetime expected loss amounts mainly concerns trade receivables. For trade receivables not due or maximum 359 days overdue, an impairment of 0.1%–2.0% is made, depending on the aging category and the origin of the receivable. In calculating the expected credit loss rates, the Group considers historical loss rates for each category, and adjusts for forward-looking macroeconomic data. In addition to that, trade receivables more than 360 days old are assessed for impairment individually.

MEUR	2019		2018	
	Trade receivables	of which impaired	Trade receivables	of which impaired
Not past due	788	1	862	1
Past due 1–30 days	149		129	
Past due 31–180 days	227	2	163	1
Past due 181–360 days	73	1	79	1
Past due more than 1 year	81	57	100	59
Total	1 317	61	1 333	62

In 2019, the result impact of write-offs was EUR -7 million (1).

Impairments

MEUR	2019	2018
Impairment, beginning of period	62	62
Other movements	-17	-3
Impairment during the period	17	3
Impairment, end of period	61	62

The Group sells trade receivables in an amount that is currently not significant compared to the trade receivables as a whole. Sold receivables have been de-recognised in the consolidated statement of financial position.

Equity price risk

Wärtsilä has equity investments totalling EUR 14 million (13) in power plant companies, most of which are located in developing countries and performing well according to expectations. Additional information in Note 18. Financial assets and liabilities by measurement category.

Capital risk management

Wärtsilä's policy is to secure a strong capital base to keep the confidence of investors and creditors and for the future development of the business. The capital is defined as total equity including non-controlling interests and net interest-bearing debt. The target for Wärtsilä is to maintain gearing below 0.50 and to pay a dividend of at least 50% of earnings over the cycle.

MEUR	31.12.2019	31.12.2018
Interest-bearing debt, non-current	851	748
Lease liabilities, non-current	146	
Interest-bearing debt, current	58	74
Lease liabilities, current	42	
Total interest-bearing liabilities	1 096	823
Interest-bearing receivables	-1	-3
Cash and cash equivalents	-358	-487
Cash and cash equivalents pertaining to assets held for sale	-11	
Total interest-bearing assets	-370	-490
Total net interest-bearing debt	726	333
Total equity	2 410	2 432
Gearing	0.30	0.14
In the capital management Wärtsilä also follows the solvency development:		
Equity and liabilities	6 398	6 059
Advances received	-452	-584
	5 946	5 475
Solvency ratio, %	40.8	44.4

34. Auditors' fees and services

The following remuneration was paid to auditors and accounting firms for audit based on applicable legislation and for other services.

In 2019, the AGM appointed the audit firm PricewaterhouseCoopers Oy as Wärtsilä Corporation's auditor. PricewaterhouseCoopers Oy has provided non-audit services to entities of Wärtsilä Group totalling 481 thousand euros. These services included tax services (215 thousand euros) and other services (266 thousand euros).

MEUR	2019		2018	
	PwC	Others	PwC	Others
Audit	4.3	0.5	3.7	0.4
Tax advisory	0.2	0.3	0.2	0.4
Other services	0.3		0.1	0.1
Total	4.8	0.8	4.0	0.9

35. Exchange rates

In the consolidated financial statements there are approximately 60 currencies consolidated. The most significant currencies are presented here.

		Closing rates		Average rates	
		31 December 2019	31 December 2018	2019	2018
AED	United Arab Emirates Dirham	4.12602	4.20536	4.11203	4.33922
BRL	Brazil Real	4.51570	4.44400	4.41354	4.30873
CHF	Switzerland Franc	1.08540	1.12690	1.11683	1.15488
CNY	China Yuan Renminbi	7.82050	7.87510	7.73388	7.80736
DKK	Danish Krone	7.47150	7.46730	7.46607	7.45318
GBP	United Kingdom Pound	0.85080	0.89453	0.87731	0.88475
INR	India Rupee	80.18700	79.72980	78.85014	80.72774
JPY	Japan Yen	121.94000	125.85000	122.05637	130.40956
NOK	Norway Krone	9.86380	9.94830	9.84967	9.60063
RUB	Russian Rouble	69.95630	79.71530	72.45934	74.05507
SAR	Saudi Arabian Riyal	4.21365	4.29501	4.19884	4.43113
SEK	Sweden Krona	10.44680	10.25480	10.58666	10.25674
SGD	Singapore Dollar	1.51110	1.55910	1.52721	1.59286
USD	United States Dollar	1.12340	1.14500	1.11960	1.18149

36. Subsidiaries

Geographical area	Company name	Location	Activities	Share %
Europe	Wärtsilä Cyprus Limited	Cyprus	Sales and services	100.0
	Wärtsilä Danmark A/S	Denmark	Sales and services	100.0
	Wärtsilä Lyngsø Marine A/S	Denmark	Sales and services	100.0
	Wärtsilä Puregas Solutions A/S	Denmark	Sales and services	100.0

Wärtsilä BLRT Estonia Oü	Estonia	Sales and services	51.7
Eniram Oy	Finland	Sales and services	100.0
Wärtsilä Finland Oy	Finland	Production, sales and services	100.0
Wärtsilä Projects Oy	Finland	Sales and services	100.0
Wärtsilä Solutions Oy	Finland	Sales and services	100.0
Wärtsilä Technology Oy Ab	Finland	Holding	100.0
Wärtsilä France S.A.S.	France	Sales and services	100.0
Wärtsilä Voyage Mediterranean SAS	France	Sales and services	100.0
Wärtsilä Deutschland GmbH	Germany	Sales and services	100.0
Wärtsilä ELAC Nautik GmbH	Germany	Sales and services	100.0
Wärtsilä Funa International GmbH	Germany	Sales and services	100.0
Wärtsilä JOVYATLAS EUROATLAS GmbH	Germany	Sales and services	100.0
Wärtsilä SAM Electronics GmbH	Germany	Sales and services	100.0
Wärtsilä Voyage Germany GmbH	Germany	Sales and services	100.0
Guidance Marine Ltd	Great Britain	Sales and services	100.0
Wärtsilä Puregas Solutions Ltd	Great Britain	Sales and services	100.0
Wärtsilä UK Ltd	Great Britain	Production, sales and services	100.0
Wärtsilä Valves Ltd	Great Britain	Production, sales and services	100.0
Wärtsilä Voyage UK Limited	Great Britain	Sales and services	100.0
Ships Electronic Services Ltd	Great Britain	Sales and services	100.0
Greenham Regis Ltd	Great Britain	Sales and services	100.0
Wärtsilä Greece S.A.	Greece	Sales and services	100.0
Wärtsilä Hungary Kft	Hungary	Sales and services	100.0
Wärtsilä Voyage Investments Unlimited Company	Ireland	Sales and services	100.0
Transas New Building Limited	Ireland	Sales and services	100.0
Wärtsilä Voyage Limited	Ireland	Sales and services	100.0
Wärtsilä APSS Srl	Italy	Sales and services	100.0
Wärtsilä Italia S.p.A.	Italy	Production, sales and services	100.0
Trident Italia Srl	Italy	Sales and services	100.0
Wärtsilä Moss AS	Norway	Production, sales and services	100.0
Wärtsilä Norway AS	Norway	Production, sales and services	100.0
Wärtsilä Gas Solutions Norway AS.	Norway	Sales and services	100.0
Wärtsilä Ship Design Norway AS	Norway	Sales and services	100.0
Wärtsilä Valmarine AS	Norway	Sales and services	100.0
Wärtsilä Baltic Design Centre Sp.z.o.o.	Poland	Sales and services	100.0
Wärtsilä Polska Sp.z.o.o.	Poland	Sales and services	100.0
Wärtsilä Ship Design Poland Sp.z.o.o.	Poland	Sales and services	100.0
Wärtsilä Voyage Poland sp. z.o.o.	Poland	Sales and services	100.0
Wärtsilä Portugal S.A.	Portugal	Sales and services	100.0
Wärtsilä Vostok, LLC	Russia	Sales and services	100.0
Transas Navigator Ltd.	Russia	Sales and services	100.0
Wärtsilä Digital Technologies, JSC	Russia	Sales and services	100.0
Wärtsilä Ibérica S.A.	Spain	Production, sales and services	100.0
Burriel Navarro S.L.	Spain	Sales and services	100.0
Trident Las Palmas S.L.	Spain	Sales and services	100.0
Wärtsilä Puregas Solutions AB	Sweden	Sales and services	100.0
Wärtsilä Sweden AB	Sweden	Production, sales and services	100.0
Wärtsilä Voyage Sweden AB	Sweden	Sales and services	100.0
Wärtsilä Services Switzerland AG	Switzerland	Sales and services	100.0
Quantiparts B.V.	The Netherlands	Sales and services	100.0

	Wärtsilä Netherlands B.V.	The Netherlands	Production, sales and services	100.0
	Trident B.V.	The Netherlands	Sales and services	100.0
	Wärtsilä Voyage Netherlands BV	The Netherlands	Sales and services	100.0
The Americas	Wärtsilä Argentina S.A.	Argentina	Sales and services	100.0
	Wärtsilä Brasil Ltda.	Brazil	Production, sales and services	100.0
	Wärtsilä Canada Inc.	Canada	Sales and services	100.0
	Wärtsilä Chile Ltda.	Chile	Sales and services	100.0
	Wärtsilä Colombia S.A.	Colombia	Sales and services	100.0
	Wärtsilä Dominicana Inc.	Dominican Republic	Sales and services	100.0
	Wärtsilä Ecuador S.A.	Ecuador	Sales and services	100.0
	Wärtsilä Guatemala S.A.	Guatemala	Sales and services	100.0
	Wärtsilä Operations Guyana Inc.	Guyana	Sales and services	100.0
	Wärtsilä de Mexico S.A. de C.V.	Mexico	Sales and services	100.0
	Wärtsilä Panama Services S.A.	Panama	Sales and services	100.0
	Wärtsilä Peru S.A.C.	Peru	Sales and services	100.0
	Wärtsilä Caribbean, Inc.	Puerto Rico	Sales and services	100.0
	Wärtsilä Uruguay S.A.	Uruguay	Sales and services	100.0
	American Hydro Corporation	USA	Sales and services	100.0
	Guidance Marine LLC	USA	Sales and services	100.0
	Wärtsilä Defence Inc.	USA	Sales and services	100.0
	Wärtsilä Dynamic Positioning Inc.	USA	Sales and services	100.0
	Wärtsilä North America, Inc.	USA	Sales and services	100.0
	LOCK-N-STITCH Inc.	USA	Sales and services	100.0
	Wartsila Voyage Americas Inc	USA	Sales and services	100.0
Asia	PT. Wärtsilä Indonesia	Indonesia	Sales and services	100.0
	Wärtsilä Azerbaijan LLC	Azerbaijan	Sales and services	100.0
	Wärtsilä Bangladesh Ltd.	Bangladesh	Sales and services	100.0
	Wärtsilä SAM Electronics (Taizhou) Co., Ltd.	China	Sales and services	100.0
	Wärtsilä Propulsion (Wuxi) Co. Ltd.	China	Production, sales and services	100.0
	Wärtsilä Services (Shanghai) Co. Ltd.	China	Sales and services	100.0
	Wärtsilä Ship Design (Shanghai) Co., Ltd	China	Sales and services	95.0
	Wärtsilä Suzhou Ltd.	China	Production, sales and services	100.0
	Wärtsilä-CME Zhenjiang Propeller Co. Ltd.	China	Production, sales and services	55.0
	Wärtsilä Voyage (Shanghai) Co. Ltd.	Hong Kong	Sales and services	100.0
	Wärtsilä China Ltd.	Hong Kong	Sales and services	100.0
	Wärtsilä India Private Ltd.	India	Production, sales and services	100.0
	Wärtsilä Japan Ltd.	Japan	Production, sales and services	100.0
	Wärtsilä Malaysia Sdn. Bhd.	Malaysia	Sales and services	100.0
	Wärtsilä Myanmar	Myanmar	Sales and services	100.0
	Wärtsilä Pakistan (Pvt.) Ltd.	Pakistan	Sales and services	100.0
	Wärtsilä Philippines Inc.	Philippines	Sales and services	100.0
	Wärtsilä Doha L.L.C.	Qatar	Sales and services	100.0
	Wärtsilä Power Contracting Company Ltd.	Saudi Arabia	Sales and services	60.0
	Guidance Marine Pte Ltd	Singapore	Sales and services	100.0
	Wärtsilä Singapore Pte Ltd	Singapore	Sales and services	100.0
	Wärtsilä Voyage Pacific Pte Ltd	Singapore	Sales and services	100.0
	Wärtsilä Korea Ltd.	South Korea	Sales and services	100.0
	Wärtsilä Lanka (PVT) Ltd	Sri Lanka	Sales and services	100.0
	Wärtsilä Taiwan Ltd.	Taiwan	Sales and services	100.0
	Wärtsilä-Enpa A.S.	Turkey	Sales and services	51.0

	Wärtsilä Gulf FZE	United Arab Emirates	Sales and services	100.0
	Wärtsilä Hamworthy Middle East (FZE)	United Arab Emirates	Sales and services	100.0
	Wärtsilä LLC	United Arab Emirates	Sales and services	100.0
	Wärtsilä Ships Repairing & Maintenance LLC	United Arab Emirates	Sales and services	100.0
	Wärtsilä Voyage Middle East DMCEST	United Arab Emirates	Sales and services	100.0
	Wärtsilä (Vietnam) Company Limited	Vietnam	Sales and services	100.0
Other	Wärtsilä Australia Pty Ltd.	Australia	Sales and services	100.0
	Wärtsilä Burkina Faso	Burkina Faso	Sales and services	100.0
	Wärtsilä Central Africa Ltd.	Cameroon	Sales and services	100.0
	Wärtsilä Egypt Power S.A.E	Egypt	Sales and services	100.0
	Wärtsilä Central Africa Gabon	Gabon	Sales and services	100.0
	Wärtsilä West Africa Guinea	Guinea	Sales and services	100.0
	Wärtsilä Eastern Africa Limited	Kenya	Sales and services	100.0
	Wärtsilä Mauritania - SAU	Mauritania	Sales and services	100.0
	Wärtsilä Mocambique LDA	Mozambique	Sales and services	100.0
	Wärtsilä Muscat LLC	Oman	Sales and services	100.0
	Wärtsilä New Zealand Ltd	New Zealand	Sales and services	100.0
	Wärtsilä Marine & Power Services Nigeria Limited	Nigeria	Sales and services	100.0
	Wärtsilä PNG Ltd	Papua New Guinea	Sales and services	100.0
	Wärtsilä West Africa S.A.	Senegal	Sales and services	100.0
	Wärtsilä South Africa (Pty) Ltd.	South Africa	Sales and services	100.0
	Wärtsilä Tanzania Ltd	Tanzania	Sales and services	100.0
	Wärtsilä Uganda Ltd.	Uganda	Sales and services	100.0

Non-controlling interests are not significant in the Group's activities and cash flows in individual subsidiaries.

The list excludes subsidiaries, which do not have a significant impact on the profit or assets of the Group. A complete list of shares and securities in accordance with the Finnish Accounting Ordinance is included in the official financial statements of the parent company prepared with the Finnish Accounting Standards (FAS).

Parent company financial statements

Parent company income statement (FAS)

MEUR	2019	2018	Note
Other operating income	89	80	1
Personnel expenses	-37	-26	2
Depreciation, amortisation and impairments	-4	-4	3
Other operating expenses	-108	-104	
Operating result	-60	-55	
Financial income and expenses			4
Income from financial assets	304	300	
Interest income and other financial income	90	74	
Exchange gains and losses	1	-1	
Interest expenses and other financial expenses	-91	-77	
	304	296	
Result before appropriations and taxes	243	241	
Change in depreciation difference		1	
Group contribution		76	
Result before taxes	243	318	
Income taxes	-3	-10	5
Result for the financial period	240	308	

Parent company balance sheet (FAS)

MEUR	2019	2018	Note
ASSETS			
Fixed assets			<u>6</u>
Intangible assets			
Other long-term expenditure	10	3	
Intangible assets and construction in progress	1	8	
	11	12	
Tangible assets			
Land and water	7	7	
Machinery, equipment and other tangible assets	6	1	
Construction in progress		6	
	13	14	
Financial assets			
Shares in Group companies	950	950	
Other shares and securities	1	1	
	951	951	
Total fixed assets	974	976	
Non-current receivables			
Receivables from Group companies	100	100	<u>7</u>
Loan receivables	1	1	
	101	101	
Current receivables			
Receivables from Group companies	2 193	2 308	<u>8</u>
Other receivables	1	2	
Prepaid expenses and accrued income	29	16	<u>9</u>
	2 224	2 327	
Cash and bank balances	113	291	
Total current assets	2 438	2 719	
Assets	3 413	3 696	

MEUR	2019	2018	Note
EQUITY AND LIABILITIES			
Equity			10
Share capital	336	336	
Share premium reserve	61	61	
Retained earnings	754	730	
Result for the financial period	240	308	
Total equity	1 391	1 435	
Accumulated appropriations			
Depreciation difference	1	1	
Provisions	18	15	
Liabilities			11
Non-current			
Loans from credit institutions	847	741	
	847	741	
Current			
Loans from credit institutions	51	56	
Trade payables	14	18	
Liabilities to Group companies	1 052	1 327	13
Other current liabilities	2	2	
Accrued expenses and deferred income	36	102	12
	1 155	1 504	
Total liabilities	2 003	2 245	
Equity and liabilities	3 413	3 696	

Parent company cash flow statement (FAS)

MEUR	2019	2018
Cash flow from operating activities:		
Result before appropriations and taxes	243	241
Adjustments for:		
Depreciation and amortisation	4	4
Financial income and expenses	-304	-296
Cash flow before changes in working capital	-56	-51
Changes in working capital:		
Assets, non-interest-bearing, increase (-) / decrease (+)	11	-28
Liabilities, non-interest-bearing, increase (+) / decrease (-)	-45	23
	-34	-5
Cash flow from operating activities before financial items and taxes	-90	-56
Interest and other financial expenses	-89	-78
Dividends received from operating activities	304	300
Interest and other financial income from operating activities	89	74
Income taxes paid	-8	-5
	295	291
Cash flow from operating activities	205	235
Cash flow from investing activities:		
Investments in tangible and intangible assets	-2	-13
Cash flow from investing activities	-2	-13
Cash flow after investing activities	203	223

Cash flow from financing activities:		
Loans receivables, increase (-) / decrease (+)	18	-492
Current loans, increase (+) / decrease (-)	-284	344
Proceeds from non-current borrowing	150	280
Repayments and other changes of non-current loans	-56	-84
Group contributions	76	99
Dividends paid	-284	-272
Cash flow from financing activities	-381	-126
Change in cash and bank balances, increase (+) / decrease (-)	-178	96
Cash and bank at beginning of period	291	195
Cash and bank at end of period	113	291

Accounting principles for the parent company

The financial statements of the parent company, Wärtsilä Corporation, have been prepared in accordance with the provisions of the Finnish Accounting Standards (FAS).

The preparation of the financial statements requires management, in compliance with the regulations in force and good accounting practice, to make estimates and assumptions that affect the measurement and timing of the reported information. Actual results may differ from these estimates.

Transactions denominated in foreign currencies and derivatives

Business transactions in foreign currencies are recorded at the rates of exchange prevailing on the transaction date. Receivables and payables on the balance sheet date are valued at the exchange rates prevailing on that date. Exchange gains and losses related to business operations are treated as adjustments to other operating income and operating expenses. Exchange gains and losses related to financing operations are entered under financial income and expenses.

Derivatives are measured at fair value. Open currency derivatives, including interest components, are valued at the balance sheet date. The fair value of interest rate swaps is calculated by discounting the future cash flows. Derivative changes in fair value are immediately recognised in financial income or expenses in the statement of income.

Research and development costs

Research and development costs are expensed in the financial period in which they occur.

Receivables

Receivables are valued to acquisition cost or to a lower probable value.

Fixed assets and depreciation and amortisation

Fixed assets are valued in the balance sheet at their direct acquisition cost less accumulated depreciation and amortisation. Certain land areas also include revaluations.

Depreciation and amortisation is based on the following useful lives:

Other long-term expenditure 3-10 years

Buildings 20-40 years

Machinery and equipment 5-20 years

Leasing

Lease payments are treated as rentals.

Provisions

Provisions in the balance sheet comprise those items which the company is committed to covering either through agreements or otherwise, but which are not yet realised. Changes to provisions are included in the income statement.

Income taxes

Income taxes in the income statement include taxes calculated for the financial year based on Finnish tax provisions, as well as adjustments to taxes in prior years. Taxes allocated to extraordinary items are shown in the notes to the financial statements.

Dividends

Dividends proposed by the Board of Directors are not recorded in the financial statements until they have been approved by the Annual General Meeting.

Notes to the parent company financial statements

1. Other operating income

MEUR	2019	2018
Rental income	3	1
Services to Group companies	85	78
Other	1	1
Total	89	80

2. Personnel expenses

MEUR	2019	2018
Wages and salaries	-30	-19
Pension costs	-5	-5
Other compulsory personnel costs	-1	-1
Total	-37	26

Salaries and remunerations paid to senior management

The President and CEO and his deputy and members of the Board of Directors. In 2019 there was not nominated deputy to the President and CEO.

-2	-5
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The President and CEO has the right to retire at the age of 63 years. The members of the Board of Management are entitled to retire on reaching the statutory retirement age. One member of the Board of Management is entitled to retire earlier, on reaching 60 years of age.

The company's Board of Directors decides the remunerations of the President and CEO and his immediate subordinates.

Additional information about Management remuneration can be found in Consolidated Financial Statements Note 32.

Personnel on average during the year	392	371
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3. Depreciation and amortisation

MEUR	2019	2018
Depreciation and amortisation according to plan		
Other long-term expenditure	-3	-3
Machinery and equipment	-1	
Total depreciation according to plan	-4	-3
Impairment losses on non-current assets		-1
Tax depreciations	-4	-4
Depreciation difference		1
Depreciation difference		
Depreciation difference on 1 January	1	2
Change in the depreciation difference		-1
Depreciation difference on 31 December	1	1

4. Financial income and expenses

MEUR	2019	2018
Dividend income		
From Group companies	304	300
Total	304	300
Other interest income		
From Group companies	34	28
From other companies	1	1
Total	35	29
Other financial income		
From Group companies	32	24
From other companies	22	20
Total	55	45
Exchange gains and losses	1	-1
Interest expenses		
To Group companies	-6	-6
To other companies	-8	-9
Total	-14	-14
Other financial expenses		
To Group companies	-32	-21
To other companies	-45	-42
Total	-77	-62
Financial income and expenses, total	304	296

5. Income taxes

MEUR	2019	2018
Income taxes		
For the financial period	-3	-4
For prior financial periods		-6
Total	-3	-10

6. Fixed assets

Intangible assets

MEUR	Other long-term expenditures	Intangible assets and construction in progress	Total 2019	Total 2018
Acquisition cost at January 1	117	8	125	123
Additions	1		2	7
Disposals	-3		-3	
Reclassifications	8	-8		-5
Acquisition cost at December 31	123	1	124	125
Accumulated amortisation at January 1	-113		-113	-115
Accumulated amortisation on disposals and other changes	3		3	5
Amortisation during the financial period	-3		-3	3
Accumulated amortisation at December 31	-113		-113	-113
Carrying amount at 31 December 2019	10	1	11	
Carrying amount at 31 December 2018	3	8		12

Tangible assets

MEUR	Land and water	Buildings and structures	Machinery, equipment and other tangible assets	Construction in progress	Total 2019	Total 2018
Acquisition cost at January 1	7	2	2	6	17	13
Additions						6
Reclassifications			6	-6		-3
Acquisition cost at December 31	7	2	8		17	17
Accumulated depreciation at January 1		-2	-1		-3	-5
Accumulated amortisation on disposals and other changes						3
Impairment losses on non-current assets						-1
Amortisation during the financial period			-1		-1	
Accumulated depreciation at December 31		-2	-3		-4	-3
Carrying amount at 31 December 2019	7		6		13	

Carrying amount at 31 December 2018	7	1	6		14
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Shares and securities

MEUR	Shares in Group companies	Shares in other companies	Total 2019	Total 2018
Acquisition cost at January 1	950	1	951	951
Acquisition cost at December 31	950	1	951	951
Carrying amount at 31 December 2019	950	1	951	
Carrying amount at 31 December 2018	950	1		951

7. Non-current receivables

MEUR	2019	2018
Receivables from Group companies		
Loan receivables	100	100
Total	100	100

8. Current receivables from Group companies

MEUR	2019	2018
Trade receivables	24	16
Loan receivables	2 135	2 153
Derivatives	27	54
Other receivables		76
Prepaid expenses and accrued income	7	10
Total	2 193	2 308

9. Prepaid expenses and accrued income

MEUR	2019	2018
Derivatives	24	12
Insurance receivables		1
Other	5	4
Total	29	16

10. Shareholders' equity

MEUR	2019	2018
Share capital		
Share capital on January 1	336	336
Share capital on December 31	336	336
Share premium reserve		
Share premium reserve on January 1	61	61
Share premium reserve on December 31	61	61
Retained earnings		
Retained earnings on January 1	1 038	1 002
Dividends paid	-284	-272
Result for the financial period	240	308
Retained earnings on December 31	994	1 038
Total shareholders' equity	1 391	1 435
Distributable equity	994	1 038

Free share issue approved by Wärtsilä Corporation's Annual General Meeting on 8 March 2018 increased the total number of Wärtsilä shares to 591 723 390.

11. Liabilities

MEUR	2019	2018
Non-current		
Interest-bearing	847	741
Total	847	741
Current		
Non-interest-bearing	96	155
Interest-bearing	1 060	1 349
Total	1 155	1 504

Debt with maturity profile

2019	Current	Long-term		
MEUR	<1 year	1-5 years	>5 years	Total
Loans from financial institutions	51	519	328	899
Total				

2018	Current	Long-term		
MEUR	<1 year	1-5 years	>5 years	Total
Loans from financial institutions	56	491	250	797
Total	56	491	250	797

12. Accrued expenses and deferred income

MEUR	2019	2018
Income and other taxes		5
Derivatives	23	79
Personnel costs	6	11
Interest and other financial items	3	3
Other	4	5
Total	36	102

13. Liabilities to Group companies

MEUR	2019	2018
Trade payables	15	9
Other current liabilities	1 008	1 293
Derivatives	25	24
Accrued expenses and deferred income	4	2
Total	1 052	1 327

14. Financial assets and liabilities by measurement category

2019

MEUR	Measured at amortised cost	At fair value through the statement of income	Carrying amounts of the statement of financial position items	Fair value
Non-current financial assets				
Interest-bearing receivables from Group companies	100		100	100
Other receivables	1		1	1
Current financial assets				
Interest-bearing receivables from Group companies	2 135		2 135	2 135
Trade receivables from Group companies	24		24	24
Derivatives		24	24	24
Derivatives from Group companies		27	27	27
Other receivables from Group companies	6		6	6
Cash and bank	113		113	113
Carrying amount by category				
Non-current financial liabilities				
Interest-bearing debt	847		847	856
Current financial liabilities				
Interest-bearing debt	52		52	52
Interest-bearing debt to Group companies	1 008		1 008	1 008
Trade payables	14		14	14
Trade payables to Group companies	15		15	15
Derivatives		23	23	23
Derivatives to Group companies		25	25	25
Other liabilities	3		3	3
Carrying amount by category				

Information about the fair value hierarchy and valuation principle can be found in Consolidated Financial Statements Note 18.

2018

MEUR	Measured at amortised cost	At fair value through the statement of income	Carrying amounts of the statement of financial position items	Fair value
Non-current financial assets				
Interest-bearing receivables from Group companies	100		100	100
Other receivables	1		1	1
Current financial assets				
Interest-bearing receivables from Group companies	2 153		2 153	2 153
Trade receivables from Group companies	16		16	16
Derivatives		12	12	12
Derivatives from Group companies		54	54	54
Other receivables from Group companies	8		8	8
Cash equivalents	5		5	5
Cash and bank	286		286	286
Carrying amount by category	2 569	65	2 635	2 635
Non-current financial liabilities				
Interest-bearing debt	741		741	747
Current financial liabilities				
Interest-bearing debt	56		56	56
Interest-bearing debt to Group companies	1 293		1 293	1 293
Trade payables	18		18	18
Trade payables to Group companies	9		9	9
Derivatives		79	79	79
Derivatives to Group companies		24	24	24
Other liabilities	3		3	3
Carrying amount by category	2 120	103	2 223	2 229

Information about the fair value hierarchy and valuation principle can be found in Consolidated Financial Statements Note 18.

15. Derivative financial instruments

MEUR	With external financial institutions	With Group companies	Total 2019
Nominal values of derivative financial instruments			
Currency forwards, transaction risk	2 358	2 448	4 806
Interest rate swaps	400	130	530
Cross currency swaps	246		246
			5 582
Fair values of derivative financial instruments (level 2)			
Currency forwards, transaction risk	11		11
Interest rate swaps	-7	2	-6
Cross currency swaps	-4		-4
Total			2

MEUR	With external financial institutions	With Group companies	Total 2018
Nominal values of derivative financial instruments			
Currency forwards, transaction risk	2 821	2 799	5 620
Interest rate swaps	270		270
Cross currency swaps	238		238
			6 128
Fair values of derivative financial instruments (level 2)			
Currency forwards, transaction risk	-55	30	-25
Interest rate swaps	-4		-4
Cross currency swaps	-8		-8
Total			-37

Foreign currency forward contracts are against transactional risks and are matched against the hedged cashflows. Interest rate swaps are denominated in euros and the average interest-bearing period for external contracts is 69 (48) months and 137 months for intragroup contracts. The average maturity for cross currency swaps is 41 (29) months.

16. Financial risks

General

Wärtsilä has a centralised Group Treasury with two main objectives: 1) to arrange adequate funding for the Group's underlying operations on competitive terms and 2) to identify and evaluate the financial risks within the Group and implement the hedges for the Group companies. The Group Treasury is organisationally within the Parent Company.

The details about the management of the Group's financial risks are in Note 33 of the Consolidated Financial statements. As the Group's liquidity and interest rate risks are managed at the parent company level the group reporting applies fully to the Parent Company.

Foreign exchange risk

Operative foreign currency risks are followed and hedged at the subsidiary level. The Group Treasury acts as a counterparty to these hedges, if that is allowed by local regulations. To enable netting of intragroup currency flows and to reduce the amount of external transactions the Group Treasury

is allowed to have minor unhedged exposures in different currencies. Any gains/losses from the Group Treasury's operations are booked directly into the financial items and we do not expect any material foreign exchange gains/losses from the Group Treasury's operations.

17. Collateral, contingent liabilities and other commitments

MEUR	2019	2018
Guarantees and contingent liabilities		
On behalf of Group companies	2 773	3 215
Total	2 773	3 215
Future nominal lease payments		
Payable within one year	4	4
Payable after one year	29	32
Total	33	36

18. Related party loans and other commitments

There are no loans receivables from senior management and the members of the Board of Directors. No pledges or other commitments were given on behalf of senior management or shareholders. In Note 32 in Consolidated Financial Statements, related party disclosures are specified. Related parties comprise the Board of Directors, the President and CEO, the Board of Management as well as the associated companies and joint ventures. In Notes 8 and 13 in Parent Company financial statement, receivables and liabilities from Group companies are specified.

19. Auditors' fees and services

The following fees were paid to auditors and accounting firms for audits and other services.

In 2019, the AGM appointed the audit firm PricewaterhouseCoopers Oy as Wärtsilä Corporation's auditor.

Auditors' fees

TEUR	2019	2018
Audit	583	524
Tax advisory	10	
Other services	111	6
Total	705	528

Proposal of the Board

The parent company's distributable funds total EUR 993,534,893.15, which includes EUR 239,590,080.77 in net profit for the year. There are 591,723,390 shares with dividend rights.

The Board of Directors proposes to the Annual General Meeting that the company's distributable earnings be disposed of in the following way:

EUR	
A dividend of EUR 0.48 per share be paid, making a total of	284 027 227.20
That the following sum be retained in shareholders' equity	709 507 665.95
Totalling	993 534 893.15

The dividend shall be paid in two instalments. The first instalment of EUR 0.24 per share shall be paid to the shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the dividend record date of 9 March 2020. The payment day proposed by the Board for this instalment is 16 March 2020.

The second instalment of EUR 0.24 per share shall be paid in September 2020. The second instalment of the dividend shall be paid to shareholders who are registered in the list of shareholders maintained by Euroclear Finland Ltd on the dividend record day, which, together with the payment day, shall be decided by the Board of Directors in its meeting scheduled for 8 September 2020. The dividend record day for the second instalment as per the current rules of the Finnish book-entry system would be 10 September 2020 and the dividend payment day 17 September 2020.

No significant changes have taken place in the company's financial position since the end of the financial year. The company's liquidity is good and in the opinion of the Board of Directors the proposed dividend will not put the company's solvency at risk.

Helsinki, Finland, 29 January 2020

Mikael Lilius

Tom Johnstone

Maarit Aarni-Sirviö

Kaj-Gustaf Bergh

Karin Falk

Johan Forssell

Risto Murto

Markus Rauramo

Jaakko Eskola, President and CEO

Auditor's Report (Translation of the Finnish Original)

To the Annual General Meeting of Wärtsilä Corporation

Report on the Audit of the Financial Statements

Opinion

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position and financial performance and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of the financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report to the Audit Committee.

What we have audited

We have audited the financial statements of Wärtsilä Corporation (business identity code 0128631-1) for the year ended 31 December 2019. The financial statements comprise:

- the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies
- the parent company's balance sheet, income statement, statement of cash flows and notes.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

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

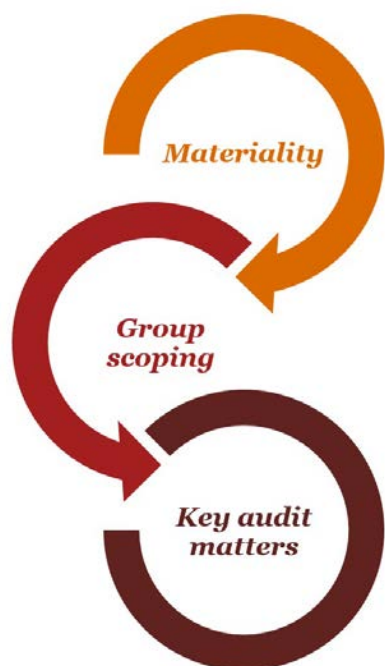
Independence

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and to the group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 32 to the Financial Statements.

Our Audit Approach

Overview



- We have applied an overall group materiality of € 24 million.
- The group audit scope included Wärtsilä Corporation parent company and all significant operating companies, as well as a large number of smaller companies, covering the vast majority of revenues, assets and liabilities.
- Revenue recognition of long-term contracts
- Valuation of goodwill
- Valuation of trade receivables

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

Overall group materiality	€ 24 million
How we determined it	5 % of profit before tax (five-year average)
Rationale for the materiality benchmark applied	We chose profit before tax as the benchmark because, in our view, the performance of the Group is most commonly measured by using this criteria, and it is a generally accepted benchmark. We chose 5 % which is within the range of acceptable quantitative materiality thresholds in auditing standards.

How we tailored our group audit scope

The group audit scope was tailored to take into account the structure of the Group and the size, complexity and risk of individual subsidiaries. Using this criteria we selected companies and accounts into our audit scope and at the same time ensured that we get sufficient coverage to our audit, in order to issue an audit opinion for the Group.

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 period. 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.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Key audit matter in the audit of the group	How our audit addressed the key audit matter
<p data-bbox="204 763 660 792">Revenue recognition of long-term contracts</p> <hr/> <p data-bbox="204 831 687 925"><i>Refer to accounting policies for the consolidated financial statements and notes 1 and 5.</i></p> <p data-bbox="204 929 687 1149">The group has significant revenue from construction contracts and long-term operating and maintenance agreements. These long-term contracts are often complex customised solutions and meet the definition for revenue recognition over time in accordance with IFRS 15.</p> <p data-bbox="204 1153 687 1563">Revenue related to these construction contracts and long-term operating and maintenance agreements is recognised using the percentage of completion method, where progress is determined by comparing actual costs incurred to date, with the total estimated costs of the project. Revenue recognition for long-term contracts includes management judgment in a form of estimates, which are subject to management experience and expectations of future events. The most important judgment relates to the estimated total costs of the project.</p> <p data-bbox="204 1568 687 1693">Revenue recognition of long-term contracts is a key audit matter in the audit due to the high level of management judgement involved in the project estimates.</p>	<p data-bbox="740 831 1342 987">Our revenue testing included both testing of the company's controls, as well as substantive audit procedures targeted at selected major long-term projects. Our substantive testing focused on estimates applied by management in the accounting.</p> <p data-bbox="740 992 1278 1055">Our procedures included, among others things, the following:</p> <ul data-bbox="740 1059 1342 1709" style="list-style-type: none"> <li data-bbox="740 1059 1342 1153">• Ensured that the revenue recognition method applied was appropriate based on the terms of the arrangement; <li data-bbox="740 1158 1342 1220">• Agreed the total project revenue estimates to sales agreements, including amendments as appropriate; <li data-bbox="740 1225 1342 1328">• We obtained an understanding of the processes and tested relevant controls, which impact the revenue recognition; <li data-bbox="740 1332 1342 1435">• We assessed the reliability of management's estimates by comparing the actual results of delivered projects to previous estimates; <li data-bbox="740 1440 1342 1543">• We challenged the management estimates and assumptions in projects, which were considered to include specific risk factors; and <li data-bbox="740 1547 1342 1709">• Recalculated the revenue based on the stage of completion of the projects. Ensured that the stage of completion is correct by comparing actual costs per the company's accounting records to the estimated total costs of the projects.
<p data-bbox="204 1760 421 1789">Valuation of goodwill</p> <hr/> <p data-bbox="204 1827 687 1890"><i>Refer to accounting policies for the consolidated financial statements and note 14.</i></p>	<p data-bbox="740 1827 1342 1919">Our audit focused on assessing the reasonableness of the determination of cash generating units, which forms the basis for the goodwill impairment testing and assessing</p>

Goodwill is one of the most significant balance sheet items and amounts to € 1 380 million. The determination and whether an impairment charge is required involves significant management judgement, including identifying on which cash generating unit level the goodwill is tested and estimating the future performance of the business and the discount rate applied to these future cash flows. Valuation of goodwill is a key audit matter in the audit due to the size of the goodwill balance and the high level of management judgement involved.

the appropriateness of management's judgments and estimates used in the goodwill impairment analysis. Our procedures relating to the impairment analysis included the following:

- We tested the methodology applied in the goodwill impairment analysis as compared to the requirements of IAS 36, Impairment of Assets;
- We evaluated the process by which the future cash flow forecasts were drawn up, including comparing them to the latest Board approved targets and long term plans;
- We tested the key underlying assumptions for the cash flow forecasts, including sales and profitability forecasts, discount rate used and the implied growth rates beyond the forecasted period;
- We compared the current year actual results included in the prior year impairment model to consider whether forecasts included assumptions that, with hindsight, had been optimistic; and
- We considered whether the sensitivity analysis performed by the management around key assumptions of the cash flow forecast was appropriate by considering the likelihood of the movements of these key assumptions.

Valuation of trade receivables

Refer to accounting policies for the consolidated financial statements and notes 18, 20 and 33.

Net trade receivables amount to € 1 256 million, including an impairment provision of € 61 million. The trade receivables include € 19 million long-term trade receivables.

Trade receivables are recognised at their anticipated realisable value, which is the original invoiced amount less an estimated valuation allowance.

Valuation of trade receivables is a key audit matter in the audit due to the size of the trade receivable balance and the high level of management judgement used in determining the impairment provision.

For trade receivables and the management's estimations for trade receivables impairment provision, our key audit procedures included the following:

- We obtained trade receivables balance confirmations;
- We analysed the aging of trade receivables; and
- We obtained a list of long outstanding receivables and assessed the recoverability of these through inquiry with management and by obtaining sufficient corroborative evidence to support the conclusions.

We have no key audit matters to report with respect to our audit of the parent company financial statements. There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements or the parent company financial statements.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and

regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or to cease operations, or there is 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 good auditing practice 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.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Appointment

We were first appointed as auditors by the annual general meeting on 2 March 2017. Our appointment represents a total period of uninterrupted engagement of three years.

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion

- the information in the report of the Board of Directors is consistent with the information in the financial statements
- the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

Other Statements

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the distributable funds is in compliance with the Limited Liability Companies Act. We support that the Members of the Board of Directors and the President and CEO should be discharged from liability for the financial period audited by us.

Helsinki 7 February 2020

PricewaterhouseCoopers Oy

Authorised Public Accountants

Merja Lindh

Authorised Public Accountant (KHT)