

# MARKET FUNDAMENTALS



# MARINE will move with unprecedented speed towards decarbonisation

## **Policies & regulations**

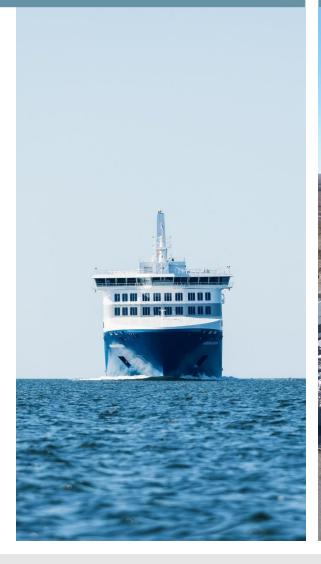
- IMO target
- Access to capital
- Cost of carbon
- Demand for green sea transport

## **Technology**

- Carbon neutral and zero carbon fuels
- Carbon fuels for many years, still
- Abatement technologies
- Battery systems, hybrids & energy saving devices
- Fuel efficiency & flexibility

## **Connectivity & data**

- Vessels as data pools
- Optimisation solutions
- Performance-based agreements
- Cyber security
- Autonomous operations



## **ENERGY** is moving towards a 100% renewables future



## **Policies & regulations**

- EU: Carbon neutral by 2050
- USA: carbon free electricity production by 2035, net zero emissions by 2050
- China: Carbon neutral by 2060

## **Technology**

- Wind and solar growing rapidly
- Intermittent sources requiring balancing power
- Sustainable fuels for thermal balancing
- Digitalisation
- Cyber security

## **Growing ENERGY demand**

- By 2050, electricity generation expected to grow by 3X, renewables by 8X 1)
- By 2030, balancing power market to grow by 10X <sup>2)</sup>
- Gradual replacement of coal
- Power systems increasingly complex

2) Bloomberg New Energy Outlook 2020, Wärtsilä estimates

<sup>1)</sup> IEA World Energy Outlook 2021 (Net Zero Emissions Scenario)



TRANSFORM
Decarbonisation creates
new business opportunities

PERFORM
Leverage market
recovery and growth





# **TRANSFORM**

# Decarbonisation creates new business opportunities

- Maritime is going through an unprecedented rate of change, which is accelerated by regulations and the demand for green transport.
- Also, the energy sector is undergoing a massive transformation as decarbonisation and renewables are fundamentally going to change the way energy is generated.
- We are set for performance and have significant value creation potential to drive this transformation as a technology leader.



Major test programme launched, 100% ammonia concept in 2023, 100% hydrogen in 2025



2 Extensive service network, positioned for growth both in transactional services and performance-based agreements

First Wärtsilä GridSolv
Quantum
delivered in
the USA





Wärtsilä selected to supply world's largest bioLNG production plant



Hitting methanol milestone with first newbuild engine order

Performance and minimal carbon footprint for world's most environmentally friendly ferry

wdsaline

# **PERFORM**



We are ready to leverage market recovery and growth

#1-3 in global markets

# **FINANCIAL TARGETS:**

- 5% annual organic growth
- 12% operating margin

"SET FOR 30"

DECARBONISATION TARGETS:

- carbon neutral in our own operations by 2030
- a product portfolio ready for zero carbon fuels by 2030





Clear financial targets and strong commitment to realise them



Robust capital allocation principles and active portfolio management



Notable opportunity in retrofits and conversions



Extensive service network, positioned for growth both in transactional services and performance-based agreements

# Focus on:

- High performing teams
- Performance excellence and robust execution
- Continuous improvement
- Cost structure actions taken whenever and wherever necessary

# **SUPPORTING DECARBONISATION IN MARINE**



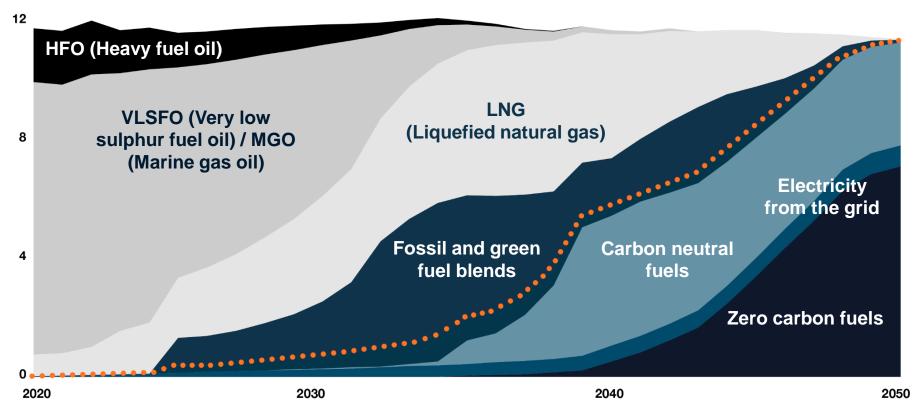
# OWNERS WILL DECIDE ON TECHNOLOGY PARTNERS NOW:

- Vessel life is 25-30 years
- Critical decision criteria:
  - Multifuel capabilities for blending with green fuels
  - Conversion capabilities for future fuels

# MOVE FROM A SINGLE-FUEL INDUSTRY TO A MULTI-FUEL ONE

Distribution of fuel types for Decarbonisation 2050 (1.5°C scenario), exajoule

••••• Carbon neutral and zero carbon fuels in maritime



Source: DNV Maritime Forecast 2050 model, Wärtsilä internal estimates



# Fuel conversions will play a vital role in the fuel transition for both existing and new vessels built during this and next decade. Fuel selection impacts the vessel structure

				NES	LH2 LH2		
Fuel type	Heavy Fuel Oil @ 20°C	Liquified Natural Gas @ -162°C	Methanol @ 20°C	Ammonia @ -33°C	Liquid Hydrogen @ -253°C	Compressed Hydrogen @350bar	Marine Battery Rack
Key considerations	<ul><li>Standard tank arrangement</li></ul>	<ul><li>Cryogenic system</li></ul>	<ul><li>Mildly toxic</li><li>Flexible tank arrangement</li></ul>	■ Toxic ■ Corrosive	<ul><li>Highly reactive</li><li>Cryo system</li></ul>	<ul><li>High pressure</li><li>Multiple tanks arrangement</li></ul>	<ul><li>Marine adaptation reduces density</li></ul>
Fuel price factor (per GJ)	1X	0.7X <sup>2)</sup>	2.2X-5.4X <sup>3)</sup>	2.2X-4.5X <sup>3)</sup>	2.7X-4.5X <sup>3)</sup>	1.6X-2.6X <sup>3)</sup>	1.3X-2.3X
Gross tank size factor	1X <sup>4)</sup>	2.4X	1.7X	3.9X	7.3X	19.5X	~40X (future potential ~20X)

<sup>1)</sup> Sources: Maersk Mc-Kinney Møller Center for Zero Carbon Shipping – Industry transition strategy 2021, Wärtsilä-DNV collaboration; 2) fuel price for e-methane is expected to be in a range similar to e-methanol; 3) fuel price range spans across blue, bio and green-electro equivalent; 4) gross tank estimations based on Wärtsilä experience



Wartsila Hybrid Market Position
We are maintaining our market leadership in Hybrid Systems

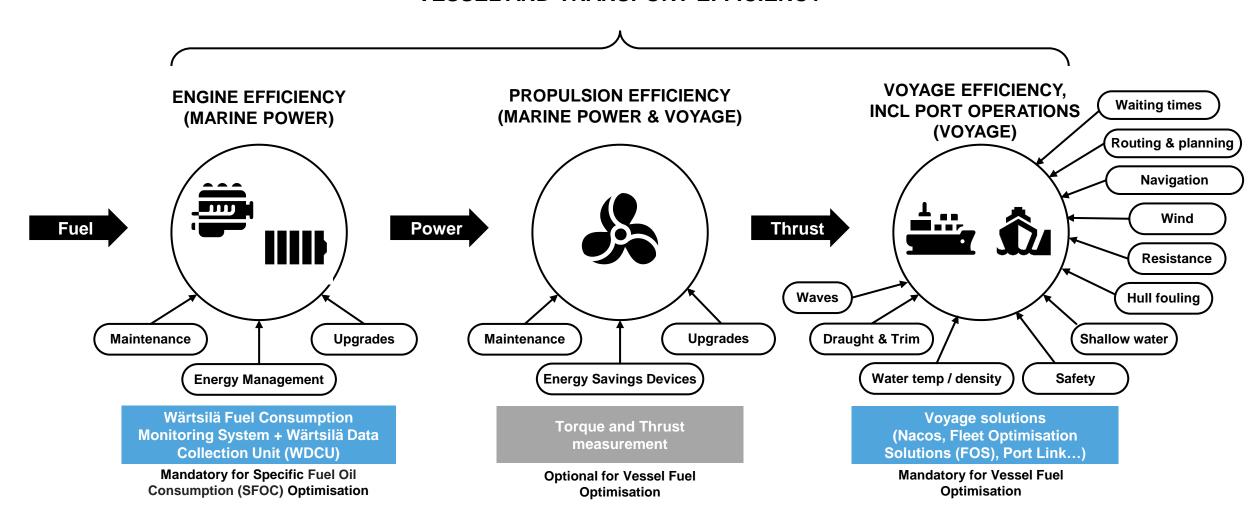
- Number of Hybrid Vessels on order and in operation is 81 vessels with 115MWh batteries
- Our current market share is 25% for engine-battery hybrid marine projects
- Number of Wärtsilä engine-hybrid vessels ordered in 2022 will be over twice the amount ordered in 2021 (>100% growth)
- Further growth expected in future years as hybridisation is seen as key enabler for marine decarbonisation





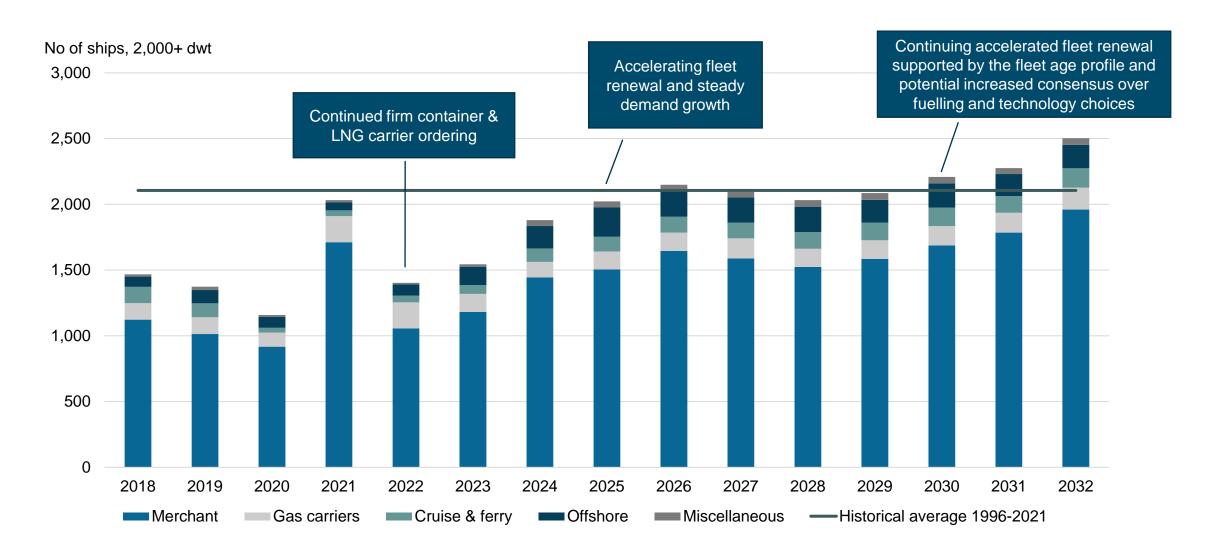
# Together we can create unique customer value and drive decarbonisation of marine

## VESSEL AND TRANSPORT EFFICIENCY



# **Vessel contracting forecast**



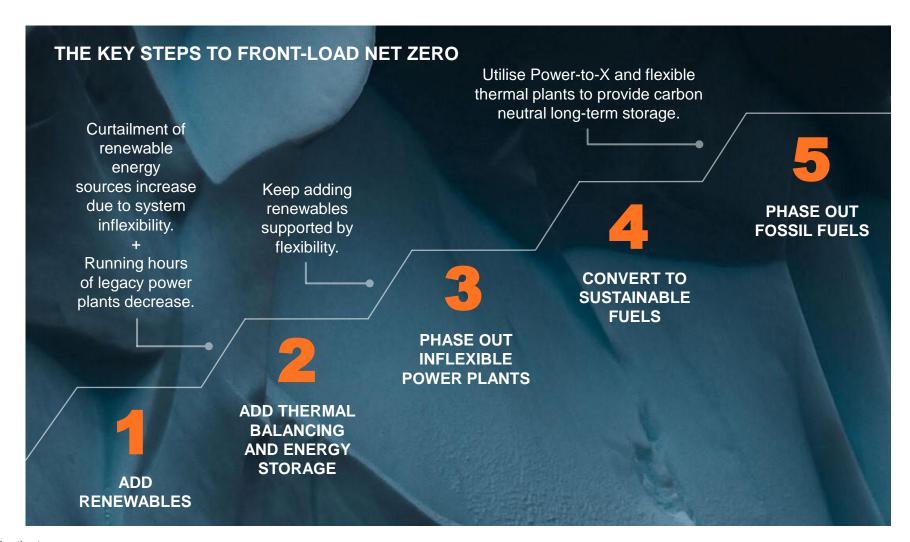


Source: Clarksons Research, September 2022

# **SUPPORTING DECARBONISATION IN ENERGY**

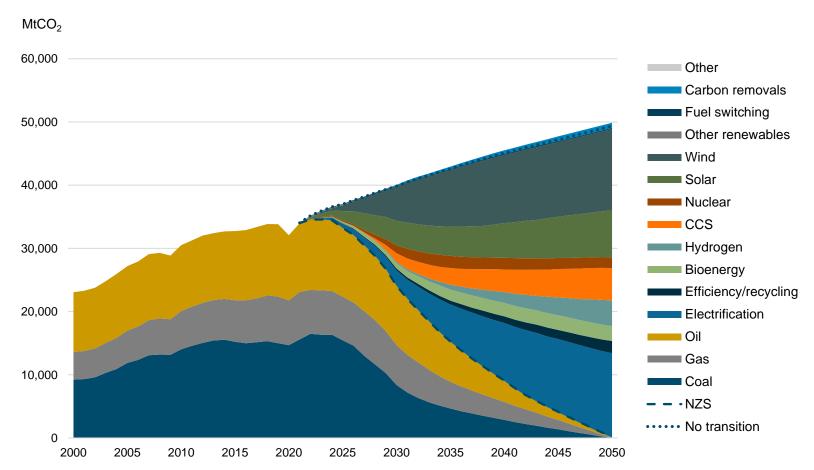


- Wind and solar are intermittent power sources
- Flexible balancing power needed to stabilize the power system: balancing power market expected to grow by 10X 1)
- Reciprocating engines ideally suited to provide balancing power
  - Energy efficient
  - Fast ramp up/ramp down
  - Fuel flexible
- Today running on gas, tomorrow on green fuels



1) by 2030. Source: Bloomberg New Energy Outlook 2020, Wärtsilä estimates

# Renewable energy plays a key role in energy sector emissions abatement



Estimated growth of the addressable annual markets of thermal balancing (GW) and energy storage (GWh) 2020-2030:

+30% p.a.

Source: BloombergNEF New Energy Outlook 2022, Source: BloombergNEF New Energy Outlook 2022 Wärtsilä estimates at Capital Markets Day 2021



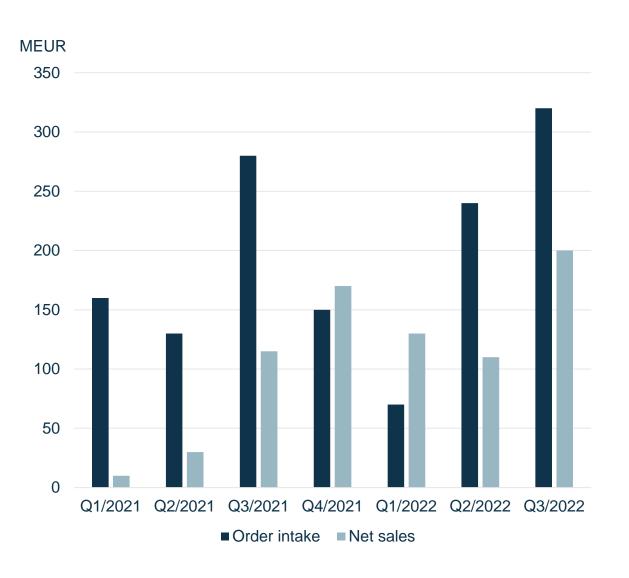
# Wärtsilä to support integration of renewables into Japan's power mix by providing balancing power gas engines



- The new Japanese plant will operate with ten Wärtsilä 34SG gas engines. It will replace a 100 MW combined cycle gas turbine that was formerly located on the project site.
- The fast-starting engines will provide the grid balancing and peaking capabilities needed as Japan increases its share of energy from renewable sources.
- The main purpose of the utility-scale power plant is hedging market price fluctuations, and it will also enable participation in the recently launched cross-regional balancing market.
- Japan is committed to addressing climate change and has set a target to have its share of renewable energy within the power mix increased to 36 - 38 percent by 2030.



# Good demand in energy storage – market expected to grow 30% annually in this decade



# Wärtsilä Energy storage

- Long-proven track record of grid scale system installations globally, integrated with wind, solar, hydro & thermal generation.
- Powered by the advanced GEMS Digital Energy Platform, designed to optimise energy system lifetime and energy system economics.
- Thermal balancing and energy storage are complementary technologies: energy storage solutions for shorter firming periods and dispatchable engines for unlimited periods (with high flexibility).
- Business currently loss making, but we aim to turn it profitable within a few years



# Wärtsilä is very well-positioned for the decarbonisation transformation

# Leader in

- Carbon neutral & zero carbon fuels
  - Available today: biofuels, methanol, up to 25% hydrogen blends
  - 2023: ammonia concept
  - 2025: 100% hydrogen concept
- Hybrid marine installations
- Energy efficient fossil fuels
- Power system optimisation
  - Energy storage
  - Thermal balancing power

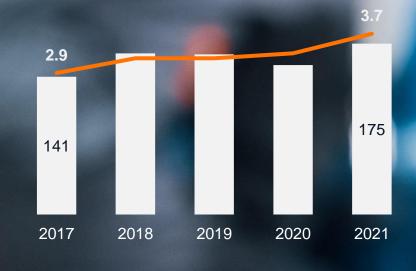
# Pioneer in

- Marine electric drivetrain
- Marine carbon capture
- Marine optimisation and autonomous solutions
- Partnering for complementary technologies
  - Fuel cells
  - Air lubrication
  - Flettner rotors



# NNO

# WE CONTINUE INVESTING IN INNOVATION TO ENSURE A BROAD, INDUSTRY-LEADING SOLUTION **OFFERING**

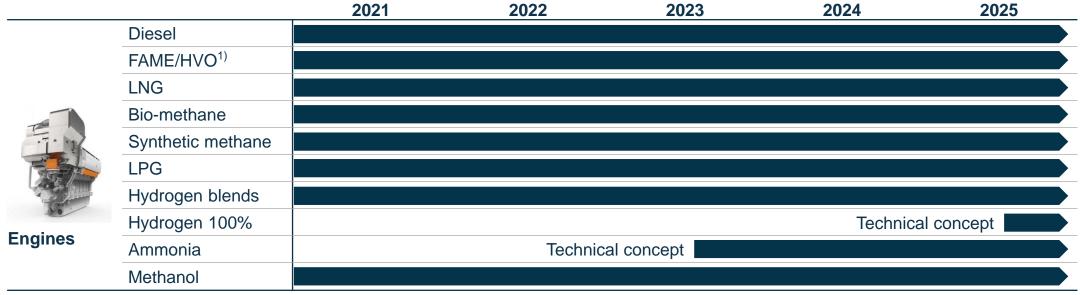


R&D expenditure, MEUR ——% of net sales





# Front-runner in alternative fuel engine technology



1) FAME, HVO: biodiesel

# New financial targets reflect growth opportunities and increased profitability

	New targets
Net sales	5% annual organic growth
Profitability	12% operating margin
Capital structure	Gearing below 0.50
Dividend	At least 50% of earnings





# Good growth opportunities in services, energy, and marine new build recovery. Our installed base provides a strong foundation for services growth

Cruise & Ferry and Special Vessel segments in

particular

Starting point: Net sales 4,401 MEUR (LTM Q3/2021)

# **Key drivers** $\oplus$ $\oplus$ Storage Fast growing demand for energy storage and power system optimisation solutions (+)**Services** Increased share of wallet from existing customers Target: Deeper penetration of installed base 5% annual organic Decarbonisation retrofits growth New business models Thermal balancing (+) Increased demand due to coal shut-downs Thermal balancing power complementing energy storage Marine new build market recovery

Limited additional CAPEX needed to facilitate the growth



# We will reach our profitability target while maintaining R&D investments at ~3% of net sales

Starting point:
Operating margin 5.9%
(LTM Q3/2021)





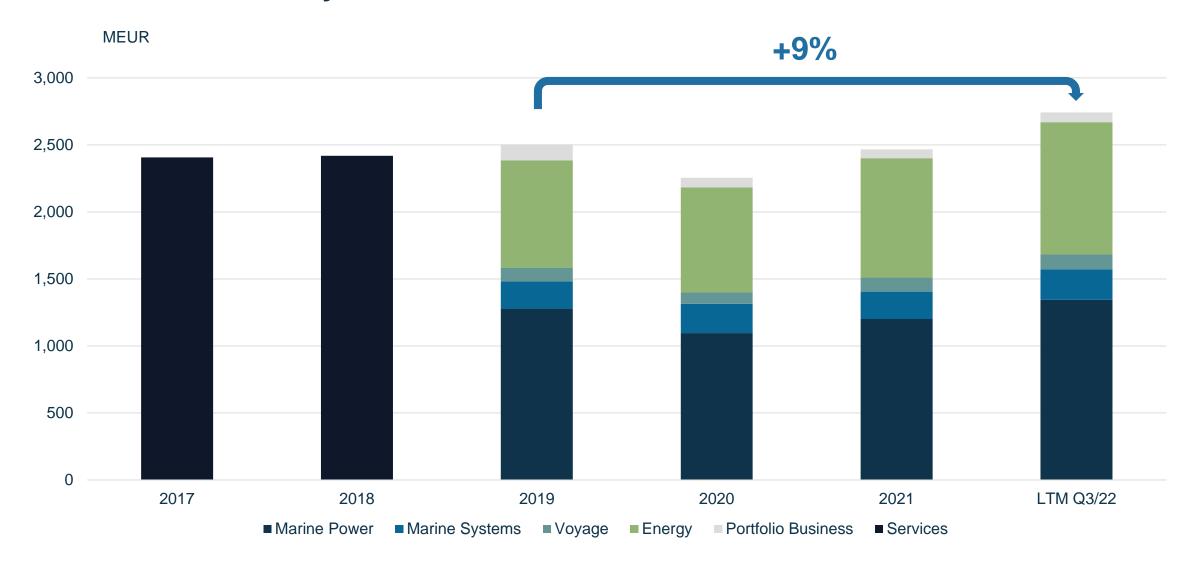
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**(+)** 

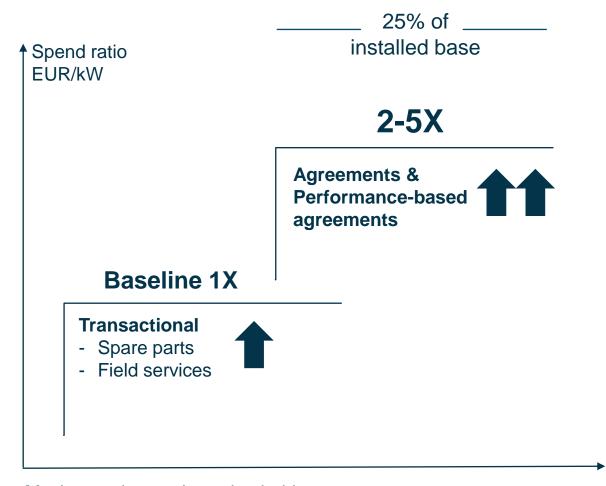


# Service net sales by business





# Performance-based agreements have significant growth potential, both in Marine and Energy



# **Enablers for growth**

- Optimised asset performance for our customers
- Leveraging connectivity, big data, machine learning and extensive service network
- Successful experience from several projects in Marine and Energy

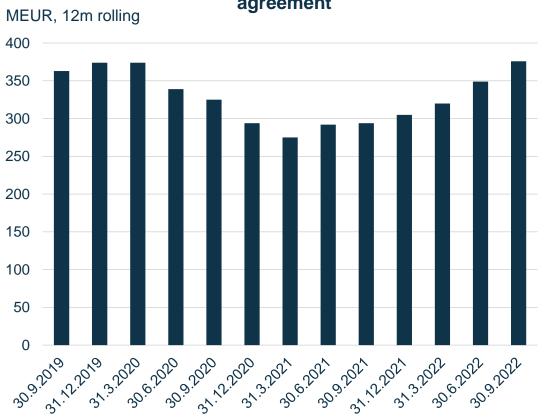
Moving up the service value ladder



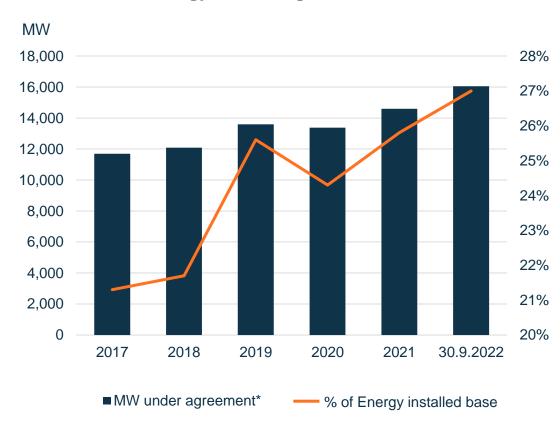


# Positive development in both Marine and Energy service business

# Marine Power net sales from installations under agreement



# **Energy service agreements**



<sup>\*</sup> Includes agreements covering both installed assets and assets to be installed in the future

# **PROFITABILITY DRIVERS FOR 2023**



# Supporting drivers

- Growth of service business
- Continued decarbonization push in both the energy and marine markets
- Profitability improvements in Energy Storage and Voyage Business
- Continued cost optimization
- Strong order book both in new equipment and services
- Lower value of new equipment orders sold with "pre-war" prices

# Uncertainties

- Geopolitical tensions
- Potential trade restrictions / trade wars
- Covid disruptions deriving from China's release of restrictions
- Recession risk

# Negative factors

- Wage inflation
- Costs of energy:
  - fuel costs (for testing)
  - o gas prices and availability

# Strong presence in sustainable development indices



Member of

# Dow Jones Sustainability Indices

Powered by the S&P Global CSA



Member 2021



















S&P Europe 350 ESG Index

# Wärtsilä's ESG Agenda in brief



# **Ambitious** decarbonization targets for 2030

- Portfolio ready for zero carbon fuels
- Carbon neutrality in own operations

# **Good Corporate** Citizen and Responsible **Employer**

- High ethical standards
- Diversity in focus
- Strive for safety

# **Effective** Governance model

Sustainability matters embedded

# Sustainability is integrated into our strategy and purpose

- High ethical standards
- Responsible employer offering, interesting and exciting workplace
- Equal opportunities and diversity
- Hazard free working environment

# **Environment**

Being a forerunner in sustainable innovation and furthermore reduce emissions in our customers' operations and in societies overall.

Innovative solutions for a low carbon economy

High environmental performance and efficiency

Partnerships and active engagement in ecosystems

## **PURPOSE**

Enabling sustainable societies through innovation in technology and services

# **Economic**

Meeting customer and shareholder expectations and contributing towards the wellbeing of society.

Efficient, profitable, and competitive company operations

WÄRTSILÄ

Countrity value

# Social

Being a good corporate citizen and responsible employer.

Customer & Shareholder value

# WÄRTSILÄ

# Decarbonising our own operations requires a wide range of actions **"SET FOR 30"**

# **OUR MAIN DECARBONISATION INITIATIVES** 2021 2030 Energy efficiency measures +/€ Low emission company vehicles +/€ Heat pumps in heating +/€€ R&D and factory engine testings – reduced time +/€ Self-generation and green electricity +++/€€ Simulations and other technologies +/€ Replacing fossil fuels with alternative fuels +++/€€€ + GHG reduction potential € Cost to reduce

# Wärtsilä "Set for 30" is progressing well

WÄRTSILÄ

Variety of concrete actions have been taken – some examples





Green electricity purchasing fully in use in Finland





Solar panel investment in Bermeo Spain



Environmental standards for selecting new facilities in use





Electric Vehicle policy defined and being rolled out





Heat pumps installed in server room in Norway



Intelligent energy meters installed in Norway - leakages detected





Electric Forklift policy defined and being rolled out





Variety of actions identified to reduce engine testing time

Set for 30

# Wärtsilä's focus on social responsibility



**Strong ethical culture** 

Fair competition
Trade compliance
Anti-corruption
Human and Labour Rights

Clear policies and instructions

Ethical training programmes and transparent communication

Effective compliance programmes

A responsible employer

Equal opportunities and diversity
Fair employment practices
Well-being of our employees
Talent and leadership development

Global policies and processes

 Training programmes and effective communication

Co-operation and consultation with our employees

A Safe place to work

Strong safety culture
Providing means for safe work
Product design principles

Employee and leadership engagement

Consistent safety competencies

High quality tools and protective equipment

Robust risk assessment practices

Incident reporting and investigation

Emergency preparedness

Clear supplier requirements

Supplier assessment process

Setting contractual obligations

Monitoring the supplier performance

 Taking necessary actions in case of noncompliance

Responsible value chain

Human and Labour Rights Compliance Anti-corruption

# Wärtsilä's Governance Model



# **External Audit**

Elected by the Annual General Meeting 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 effectiviness 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 Annual General Meeting. 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.

# **Thematic Boards**

Thematic Boards preparing and aligning for Board of Management decision on topical matters like strategy, sustainability, cyber, etc

# **Shareholders' Nomination Board**

The Nomination Board prepares matters pertaining to the appointment and remuneration of the Board of Directors.

## **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.

# **People Committee**

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

# SIGNIFICANT VALUE CREATION POTENTIAL





ENABLING SUSTAINABLE SOCIETIES
THROUGH INNOVATION IN
TECHNOLOGY AND SERVICES



# **COMMITTED TO TARGETS**

### FINANCIAL TARGETS

- 5% annual organic growth
- 12% operating margin

## "SET FOR 30" - DECARBONISATION

- A product portfolio ready for zero carbon fuels
- Carbon neutral in own operations

# **ENERGY**

Intermittent sources of energy require balancing solutions. By 2030, the balancing power market is expected to grow >10X.

# **MARINE**

An unprecedented rate of change driven by regulations and demand for green transport. 50% GHG reduction in shipping by 2050



# TARGET POSITION

SHAPING THE DECARBONISATION OF MARINE & ENERGY

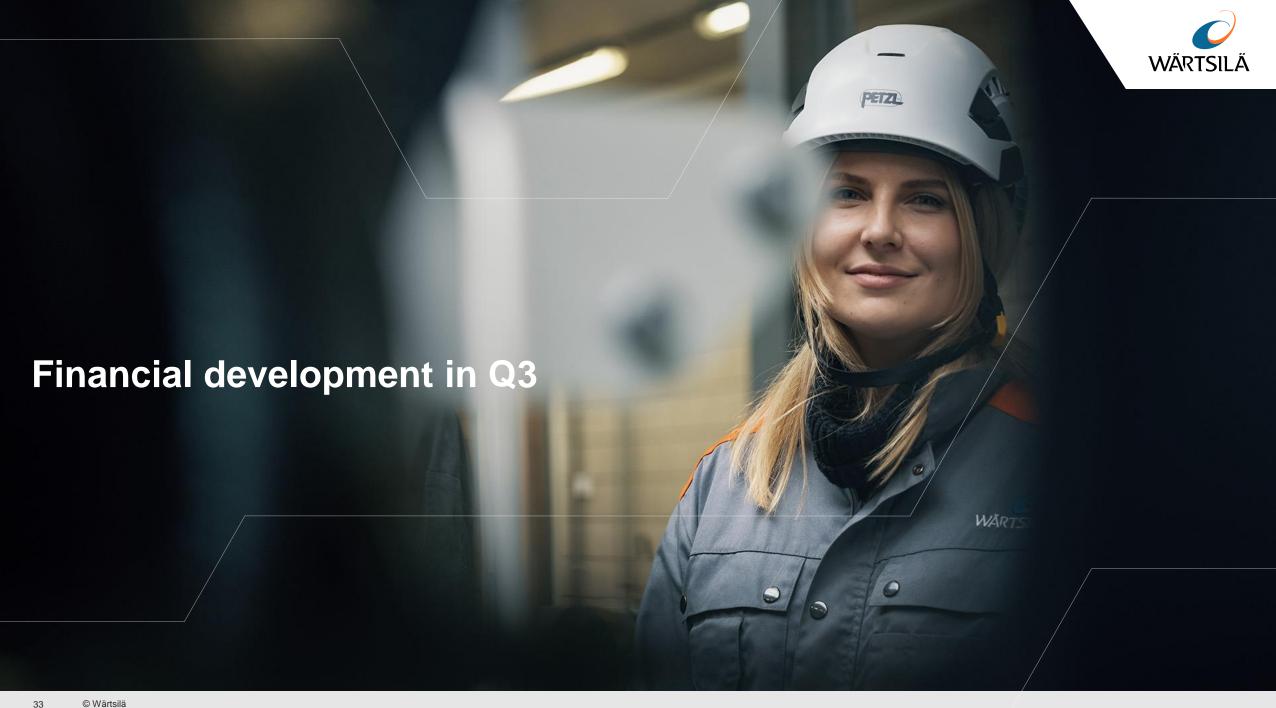
# LEADING OFFERING TO SUPPORT OUR CUSTOMERS IN DECARBONISATION

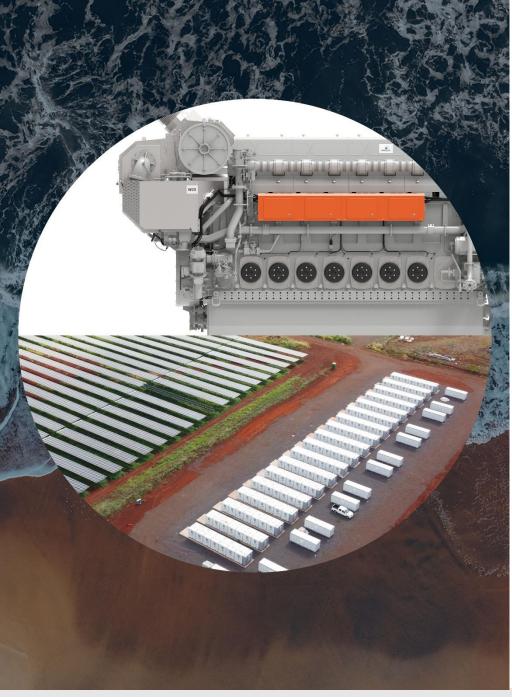
FUEL FLEXIBLE
ENGINES ENABLING
DECARBONISATION

BATTERY, ENERGY SAVING, AND EMISSION ABATEMENT TECHNOLOGIES THERMAL BALANCING
AND ENERGY STORAGE

ENERGY EFFICIENCY & POWER SYSTEM OPTIMISATION

THE WIDEST SERVICE NETWORK IN THE INDUSTRY DIGITAL SOLUTIONS ENABLING OPTIMISED OPERATIONS AND SERVICE







# Good order intake – cost inflation and business mix burdened profitability

- Order intake increased by 36%
- Net sales increased by 30%
- Good progress in services:
  - Service order intake increased by 27%
  - Service net sales increased by 13%
- Comparable operating result decreased by 6%
- Intensifying cost inflation, prevailing disturbances in supply chains, tightening monetary policies, and challenging macro environment are creating turbulence within the global business environment.
- Last week, we announced that we are taking the next step to further strengthen our marine end-to-end lifecycle offering by integrating the Voyage business into Marine Power as a business unit.



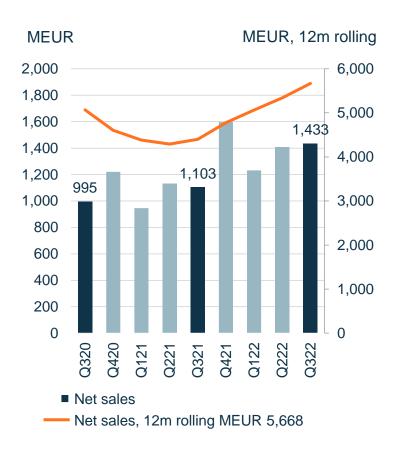
# **Key figures**

MEUR	7-9/2022	7-9/2021	CHANGE	1-9/2022	1-9/2021	CHANGE
Order intake	1,616	1,186	36%	4,436	3,584	24%
of which services	732	578	27%	2,275	1,868	22%
Order book				6,229	5,325	17%
of which current year deliveries				1,651	1,402	18%
Net sales	1,433	1,103	30%	4,072	3,181	28%
of which services	664	589	13%	1,991	1,717	16%
Book-to-bill	1.13	1.07		1.09	1.13	
Operating result	10	75	-87%	-62	170	
% of net sales	0.7	6.8		-1.5	5.3	
Comparable operating result	82	87	-6%	232	199	17%
% of net sales	5.7	7.9		5.7	6.3	

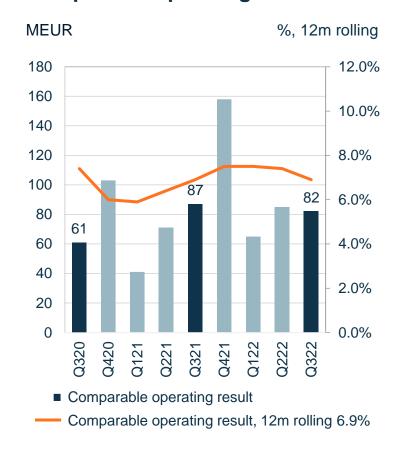
Wärtsilä's financial information for the year 2021 has been adjusted to reflect a change in categorisation between equipment and services in Wärtsilä Marine Power and Wärtsilä Marine Systems. This restatement has no impact on the group's total financial figures.

# Third quarter highlights

# **Net sales**



# Comparable operating result



# Net sales EUR 1,433 million

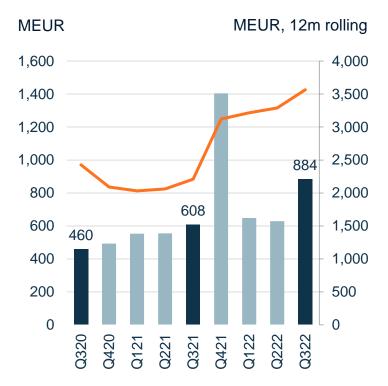
13% increase in service sales

# Comparable operating result EUR 82 million

6% decline

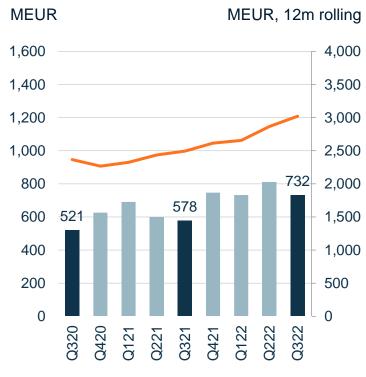


# **Equipment**



- Equipment order intake
- Equipment order intake, 12m rolling MEUR 3,565

### **Services**



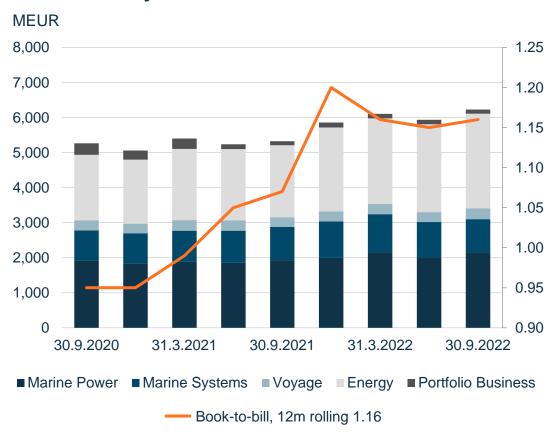
- Service order intake
- Service order intake, 12m rolling MEUR 3,022

- Equipment order intake increased by 45%
- Service order intake increased by 27%

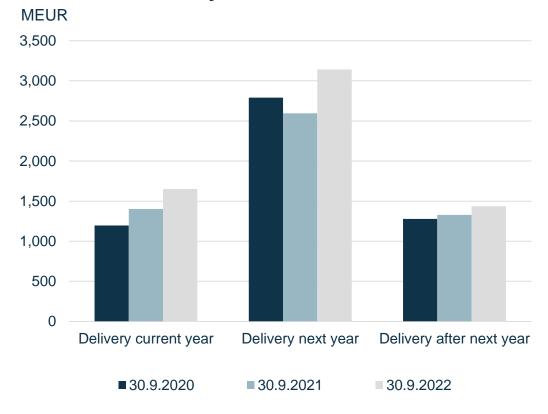
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# **Strong order book**

# Order book by business



# Order book delivery schedule



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# **Board of Management**



Håkan Agnevall, President & CEO



Arjen Berends, Chief Financial Officer



Tamara de Gruyter, President, Wärtsilä Marine Systems



Kari Hietanen, Corporate Relations and Legal Affairs



Roger Holm, President, Wärtsilä Marine Power



Hannu Mäntymaa, President, Wärtsilä Voyage



Atte Palomäki, Communications, Branding & Marketing



Teija Sarajärvi, Human Resources



# **Board of Directors**



Tom Johnstone CBE, Chair of the Board, President and CEO of AB SKF 2003–2014



Risto Murto, Deputy Chair of the Board, President & CEO of Varma Mutual Pension Insurance Company



Karen Bomba, President of Smiths Interconnect 2017-2020



Morten H. Engelstoft, CEO & EVP of A.P. Møller - Mærsk A/S, APM Terminals 2016–2022



Karin Falk, President, Husqvarna Construction Division



Johan Forssell, President and CEO of Investor AB



Mats Rahmström, President & CEO of Atlas Copco AB



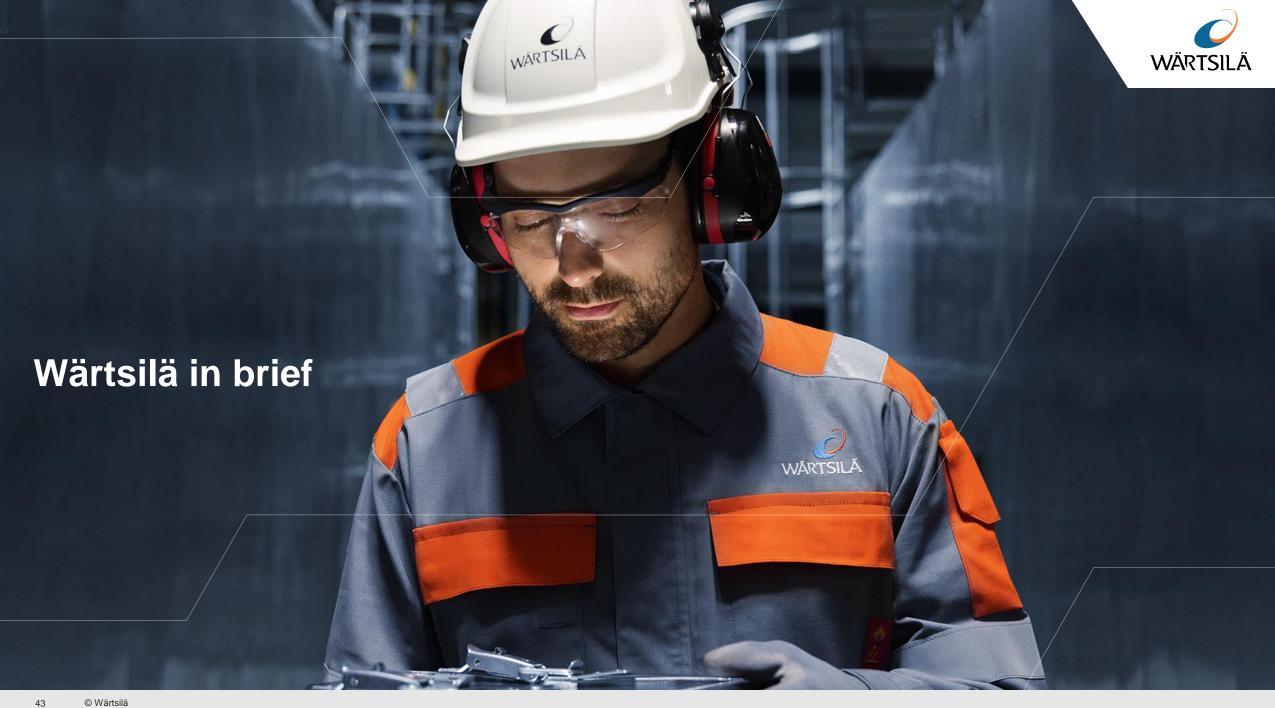
Tiina Tuomela, CFO, Uniper SE

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# **Largest shareholders 30 December 2022 (Euroclear)**

#	Name	Shares	Share %
1	Invaw Invest AB	104,711,363	17.70%
2	Varma Mutual Pension Insurance Company	31,768,252	5.37%
3	Ilmarinen Mutual Pension Insurance Company	13,736,503	2.32%
4	Elo Keskinäinen Työeläkevakuutusyhtiö	6,898,000	1.17%
5	The Social Insurance Institution of Finland	5,517,730	0.93%
6	Svenska Litteratur-sällskapet i Finland Rf	5,171,277	0.87%
7	State Pension Fund	4,700,000	0.79%
8	Holdix Oy Ab	4,139,400	0.70%
9	Jenny and Antti Wihuri Foundation	2,700,000	0.46%
10	Sigrid Jusélius Foundation	2,374,505	0.40%
	Nominee registered	199,422,303	33,19%
	Total	591,723,390	100.00%



# **KEY FIGURES 2021**

Order intake 5,735 **MEUR** 

Net sales 4,778 **MEUR** 

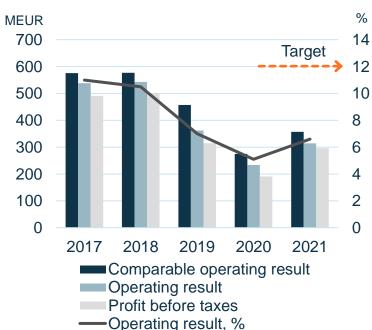
Comparable operating result **357 MEUR** 7.5% of net sales

Operating result **314 MEUR** 6.6% of net sales

Cash flow from operating activities **731 MEUR** 

Personnel 17,000

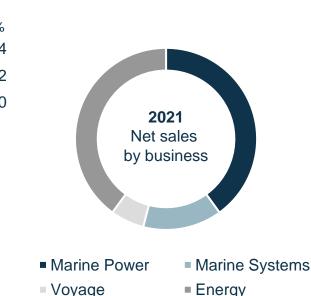


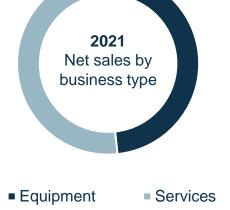




■ Europe ■ Asia ■ Americas ■ Other







+358 10 709 1630



Clear financial targets and strong commitment to realise them



Robust capital allocation principles and active portfolio management



Notable opportunity in retrofits and conversions



Extensive service network, positioned for growth both in transactional services and performance-based agreements

- High performing teams
- Performance excellence and robust execution
- Continuous improvement
- Cost structure actions taken when necessary

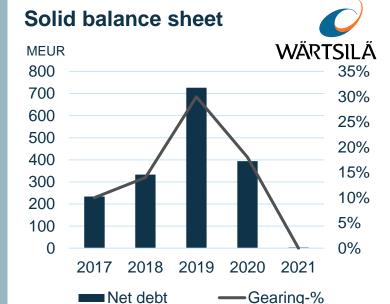
# Strong track record in innovations

Investing ~3% of net sales on R&D yearly

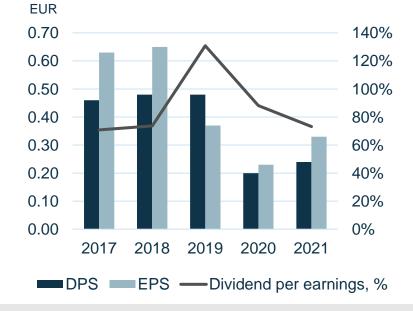
**Today:** engines run on biofuels, methanol, up to 25% hydrogen blends

**By 2023:** pure ammonia fuel engine concept ready

By 2025: pure hydrogen fuel engine concept ready



### **Dividend**



# **Financial targets**

#### **Net sales**

5% annual organic growth

### **Profitability**

12% operating margin

### **Capital structure**

Gearing below 0.50

#### Dividend

Distribute a dividend of at least 50% of earnings

# Capturing opportunities arising from decarbonisation

#### **Marine**

- Increasing environmental regulations
- Demand for green sea transport, driven by companies' environmental commitments to their customers
- Need for fuel flexible engines

### **Energy**

- Country climate pledges
- Coal phase-out
- Renewables growth and the consequent need for balancing power and energy storage
- Need for fuel flexible engines



# **MAIN COMPETITORS**

# **ENGINES**

# **OTHER MARINE SOLUTIONS**

# **OTHER ENERGY SOLUTIONS**

MAN Himsen Rolls-Royce INNIO Kongsberg Alfa Laval GE Siemens Schottel GE Siemens Tesla Fluence

# **CUSTOMER BASE**

# **MARINE BUSINESSES**

Ship owners
Ship operators
Ship management companies
Charterers
Shipyards
Port authorities

# **ENERGY**

Utilities
Independent Power Producers (IPPs)
Industrial customers





# For more information, call us or visit our Investors page

### **Next upcoming IR events**

■ 31 January 2023, Financial Statements Bulletin 2022

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