Moving up the Service Value Ladder in Marine

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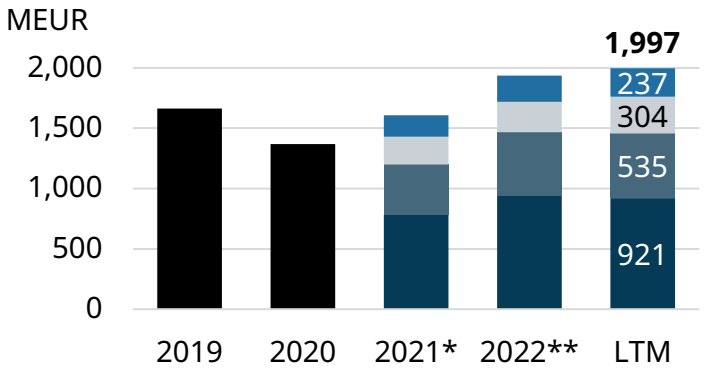
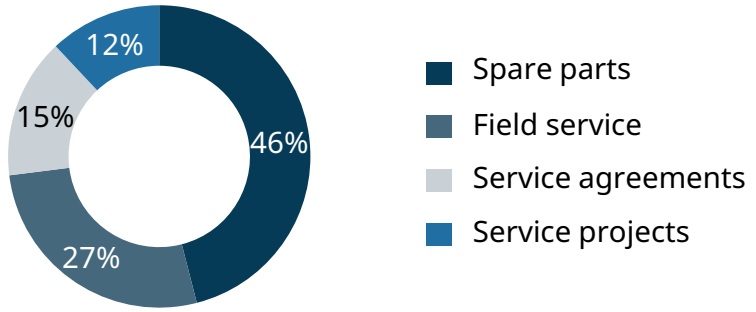
Wärtsilä Marine services

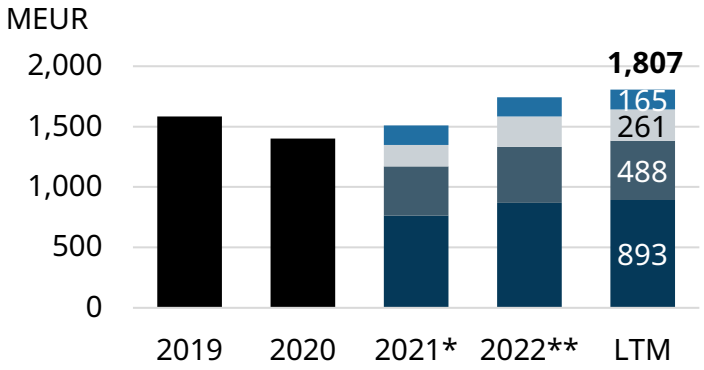
Service order intake



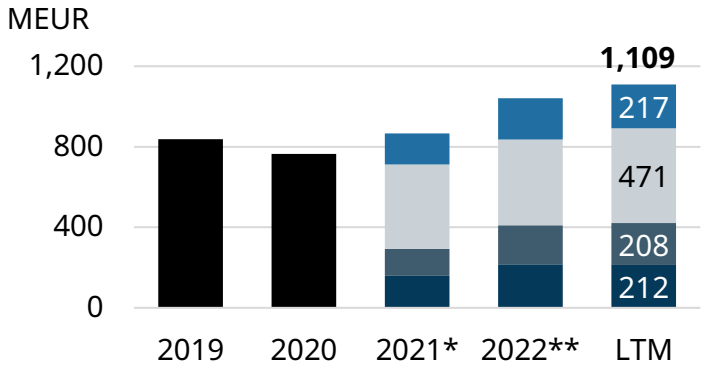
Service order intake, LTM



Service net sales



Service order book



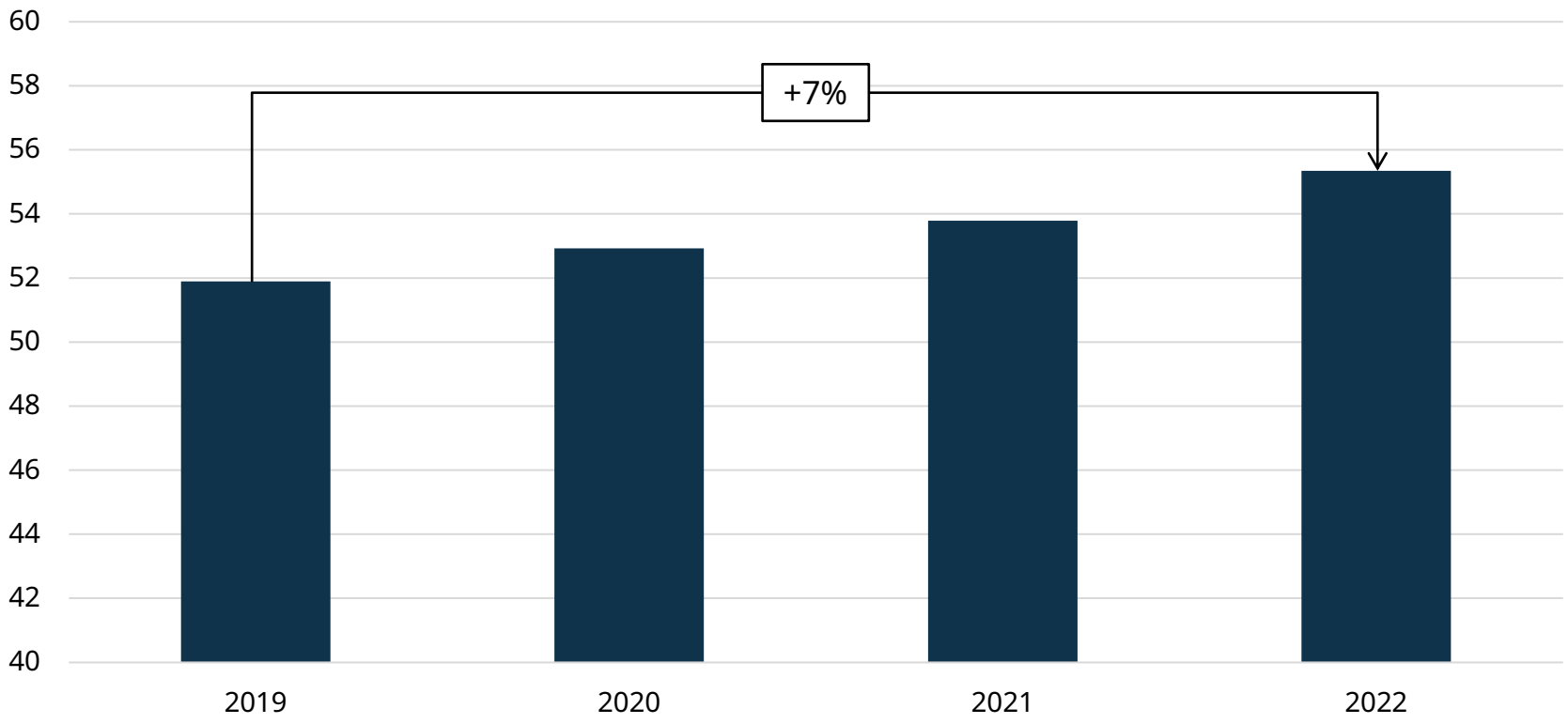
Key growth drivers

- Good activities in key segments
- Growing installed base
- Moving up the Service value ladder through increased agreement coverage
- Growing retrofit business connected to decarbonisation

* Adjusted to reflect a change in categorisation between equipment and services in Wärtsilä Marine Power and Marine Systems.
** Restated to reflect the redefined organisational change of integrating Voyage to Marine Power. Voyage figures added to Marine Power figures for 2019–2021 for indicative purposes. Split by category not available before 2021. LTM = Last twelve months, Q222-Q123

Once on board, Wärtsilä engines generate service revenues for 34 years, on average

Marine Power 4-stroke installed base, GW[1)]



Key considerations

- We serve 3,300 customer groups at least once a year
- Our OEM installed base includes 56 GW of 4-stroke engines (+7% compared to April 2019) and 14,600 propulsion equipment[2)]
- Lifecycle sales (EUR/kW) has a sweet spot between 5 and 15 years, as the engines are more likely to be served according to the maintenance plan
- 40% of our installed base is between 5 and 15 years old

1) 4-stroke, excluding Quantiparts; 2) Excluding Quantiparts (13 GW) and Propulsion Controls (6000)

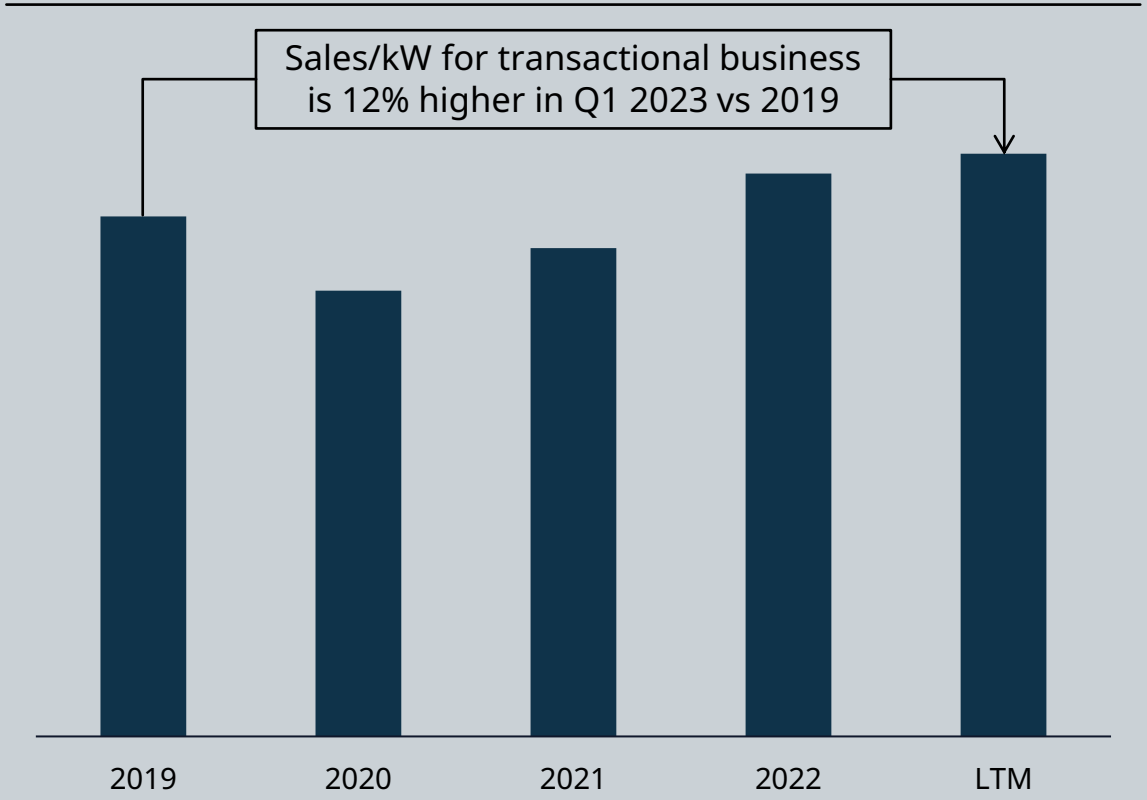
We address customers' maintenance needs via 3 distinct revenue streams: Transactional, Agreements, Retrofit Projects

	Transactional	Agreements	Retrofit projects
Scope	▪ Spare parts and labour	▪ Spare parts and labour ▪ Advisory services, technical support ▪ Guarantee for key performance parameters, e.g. fuel consumption[1)]	▪ Engineering, planning and excution of retrofit projects, e.g. re-powering, upgrades, fuel conversions, engine power limitation, hybridisation, shaft generators, energy saving devices
Growth drivers	▪ Capture growth through long-tail customer development, increased share of wallet, price strategy ▪ Optimize cost-to-serve through continuous improvement	▪ Convert existing transactional customers to service agreements ▪ Climb the service value ladder, grow in guaranteed asset performance and outcome-based agreements	▪ Establish a leading position in decarbonization-driven retrofits ▪ Engage with customers in planning an upgrade path for their fleets via Decarbonization Services
% 2022 services sales[2)]	~60%	~30%	~10%

1) According to agreement-specific scope; 2) Agreement sales considered as all sales related to vessels under agreement, including field services and spare parts out of the agreement scope

We are growing our transactional sales…

4-stroke engine lifecycle sales, EUR/kW



…while continuously improve our cost-to-serve

The ratio of non-billable vs billable resources in Field Services & Workshops business unit has been reduced by 6%+ in 2022 compared to 2020

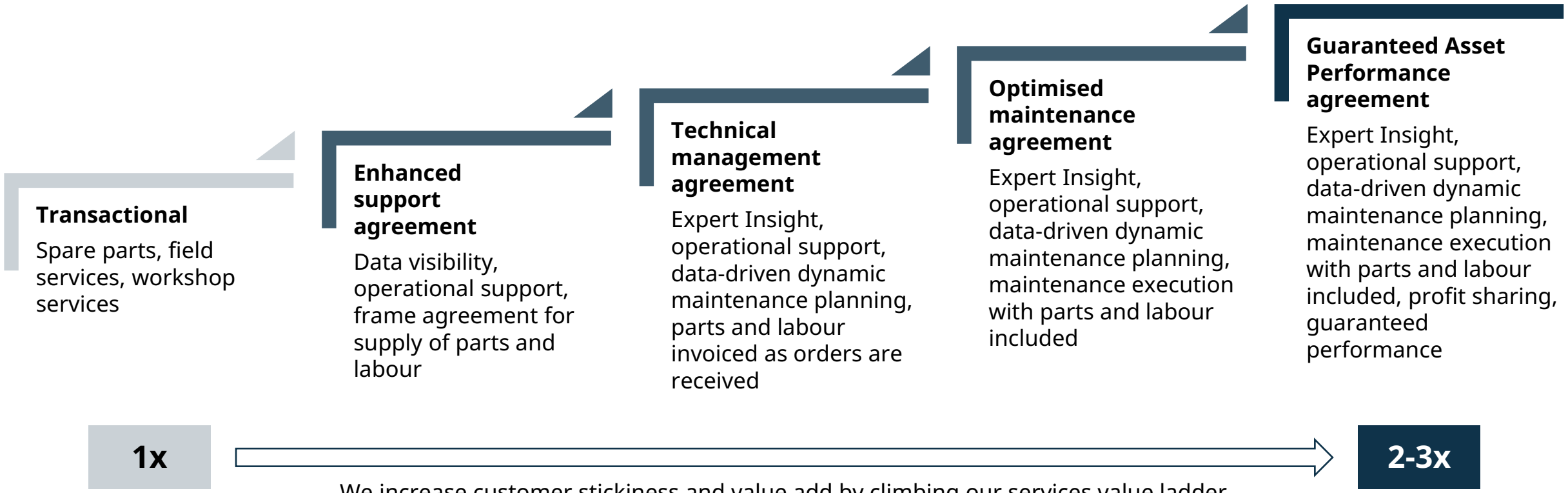
Sales through digital channels has increased by over 60% in Marine Power between 2019 and 2022; today, 25% of part sales is made through digital channels

Energy and Marine customers are served by the same global Field Services network and by the same Global Logistics Services distribution centre, enabling synergies and optimal capacity management

Wärtsilä's agreement value ladder consists of four steps: enhanced support, technical maintenance, optimized maintenance, guaranteed asset performance

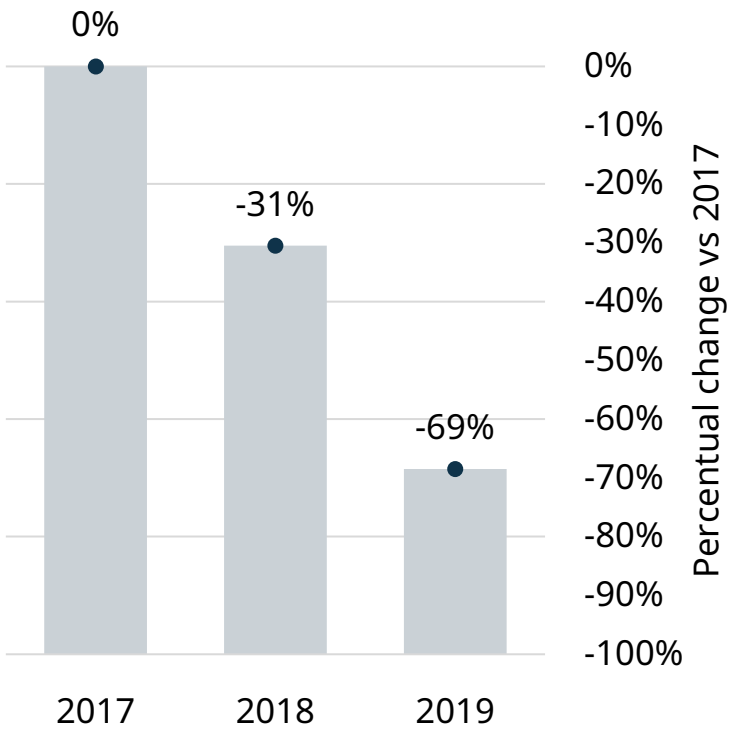
Our primary targets are high value assets where uptime and efficiency are important and/or assets with new technology

Wärtsilä Service Value Ladder, sales EUR/kW relative to transactional



Combining data analytics capabilities with product know-how, we augment customer value and improve our own service operations

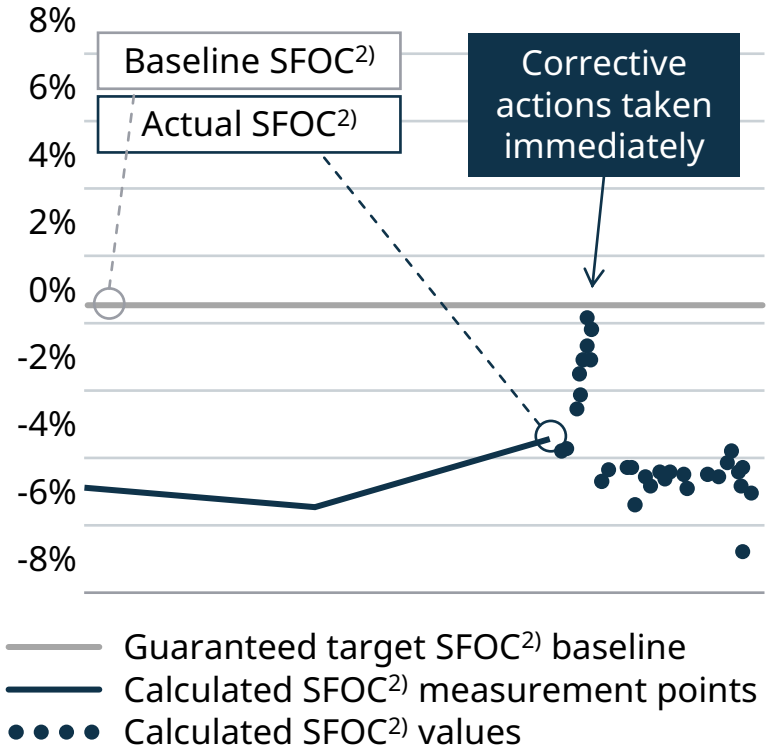
Decreased customer's costs of unscheduled maintenance with Wärtsilä Expert Insight[1)]



Advanced analytics combined with OEM expertise enhance customer value

11	Expertise Centres worldwide serving only agreement customers
+350	vessels with Expert Insight installed or planned
93%	of customers renew their agreement
25%	average reduction of unscheduled maintenance
90%	of issues solved remotely

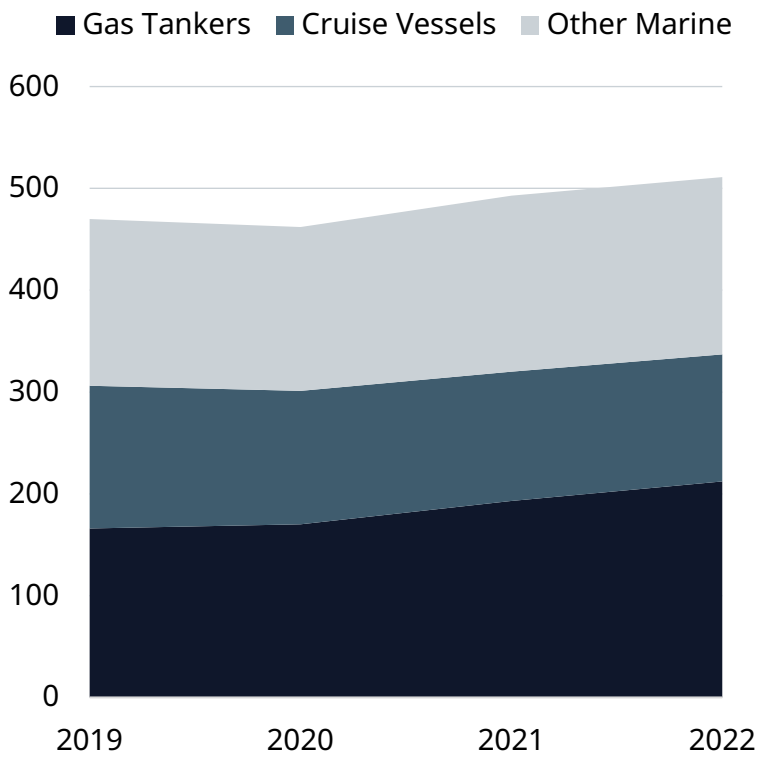
Continuous measurement enables prediction and fast and proactive actions



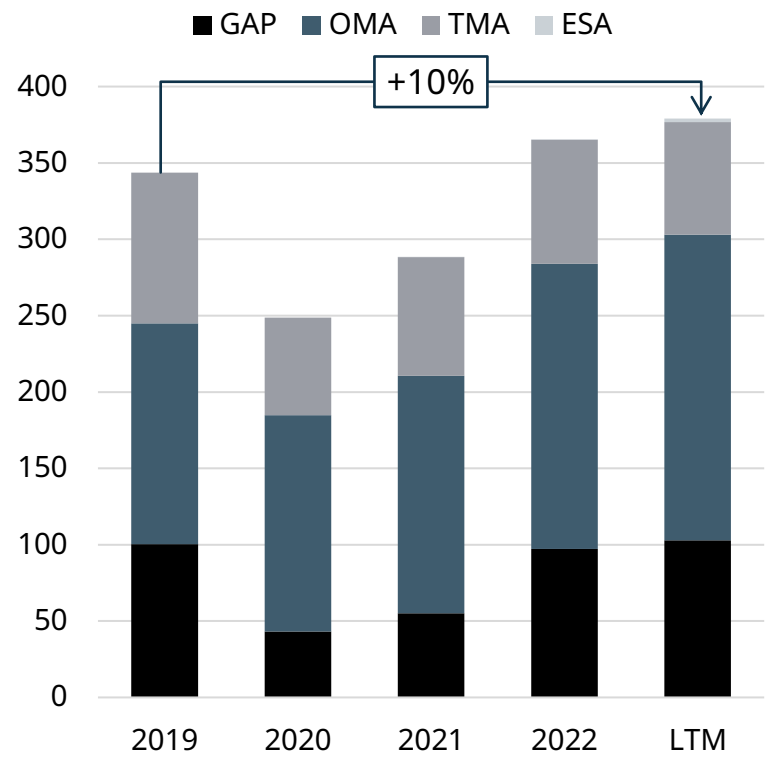
1) Based on data from 54 LNG Carriers with Expert Insight; 2) SFOC = Specific Fuel Oil Consumption

The share of installations under agreement is expanding faster than the installed base organic growth rate

Number of vessels under agreement



2022 sales to vessels under agreement, MEUR[1)]



Key considerations

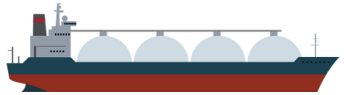
- 29% of our engine installed base is under agreement[2)]
- Sales to agreement installations grew by 10% compared to pre-Covid levels
- 27% of sales to installations under agreement in 2022 were linked to guaranteed asset performance agreements
- Agreements are signed across multiple segments; LNG carriers fleet under agreement grew by 28% in past 4 years, while cruise slightly declined due to Covid-driven scrapping and ownership changes

1) Only 4-stroke service sales to engines under agreement considered, including field services and spare parts out of the agreement scope; ESA = Enhanced support agreement, TMA = Technical management agreement, OMA = Optimised maintenance agreement, GAP = Guaranteed Asset Performance agreement; 2) Defined as Wärtsilä 4-stroke engine MW under agreement

Guaranteed Asset Performance agreements ensure assets' operational reliability and efficiency; targets are mutually agreed based on customer-specific needs

CROWLEY

NYK LINE NIPPON YUSEN KAISHA



CARNIVAL CORPORATION&PLC.

Response time

- Guaranteed response time to emergency support request for 2-stroke main engines
- 5-year agreement signed for 5 containerships
- Secured and timely service support

Time between overhauls

- Guaranteed time between overhauls for 2-stroke main engines
- 8 to 15-year agreements signed for 12 LNG carriers[1)]
- Predictable and less frequent scheduled maintenance

Uptime

- Guaranteed power system uptime for 4-stroke main engines
- 5-year agreement signed for 6 LNG carriers
- Maximised and guaranteed vessel uptime

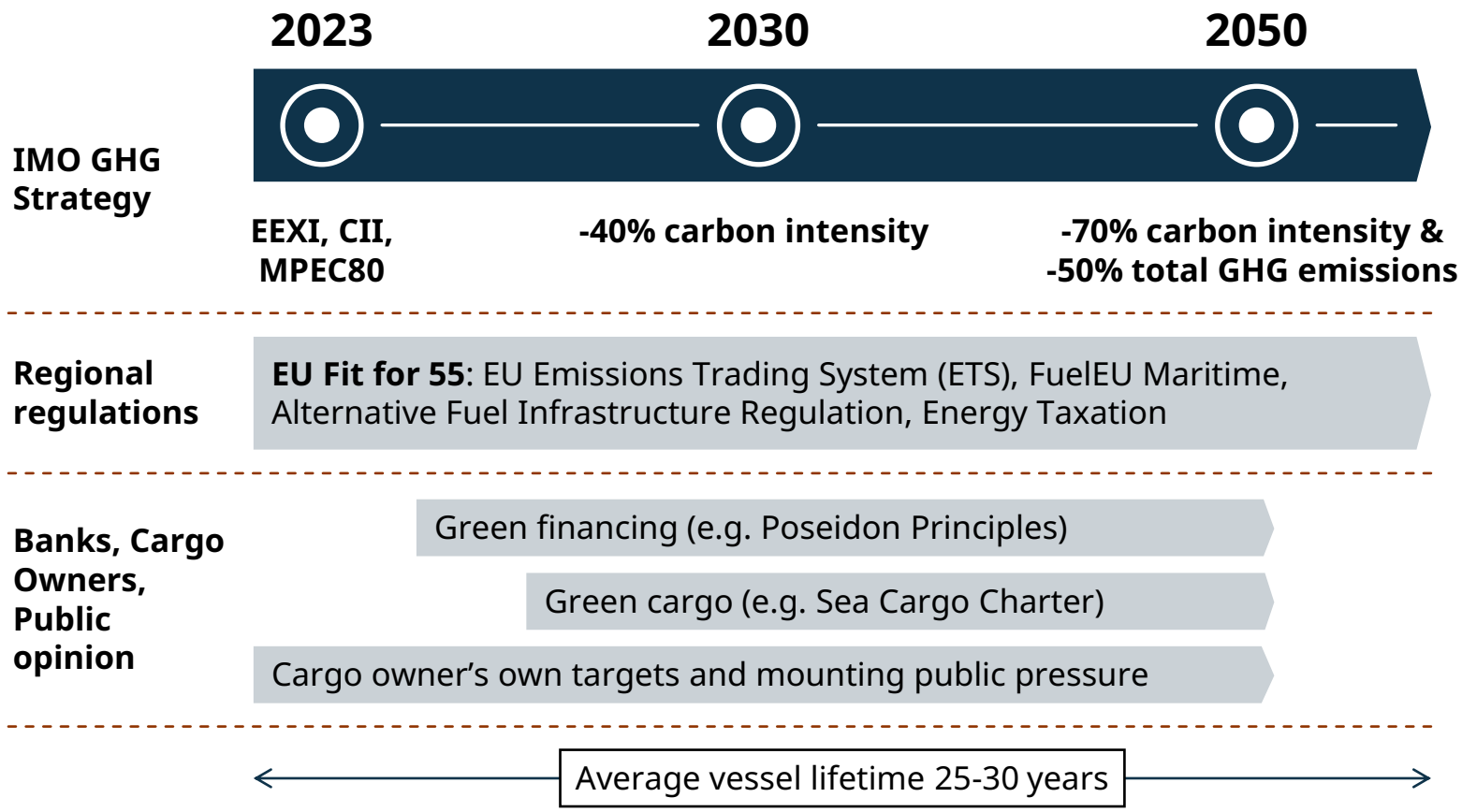
Fuel savings

- Guaranteed fuel consumption vs increasingly stringent targets, bonus-malus model
- 12-year fleet-wide agreement for 62 ships and 326 engines
- Optimal upgrade and service path defined for each engine, to achieve the best possible return on investment
- ~110 000 tons fuel saved, ~340 000 tons CO2 emissions reduction since 2017

Reduced unscheduled maintenance and remote operational support enabled by Expert Insight and Wärtsilä Expertise Centres

1) Agreement duration and scope are vessel specific

Tightening regulations increase demand for decarbonisation- and compliancy-driven retrofits; Wärtsilä is well positioned to capture this business



48%
of the fleet is not CII compliant in 2023, 72% will not be compliant in 2027 if no action is taken[1)]

30,000
ships need to take action to comply with the EEXI regulation[2)]

$8-28bn
yearly investments needed on onboard technology to reach net-zero emissions by 2050[2)]

Note: EEXI and CII apply to all cargo and passenger ships over 400 GT and 5000 GT, respectively (with some exceptions);
1) Source: Wärtsilä CII tool, correction factors excluded, ships with D or E rating considered as non-compliant; 2) Source: DNV

We are engaging with customers in defining the best-possible upgrade path for their fleets via our Decarbonisation Services

Decarb. pathway analysis

- Decarbonisation path for ship Regal Princess, as basis for a fleet-wide programme; advanced digital modelling and simulation of operational, environmental and financial impact of new technologies
- Enables customers to make data-led investment decisions
- Unlocks retrofit potential, strengthens our position as business partner and technology leader

<500 kEUR/ship[1)]

2-stroke engine derating

- Retrofit contracted by 2 major container liners for 2-stroke engine derating (*Fit4Power*)
- Reduced bore size by 25% and new combustion chamber design, enabling 15%+ lower fuel consumption and emissions, and extended CII compliance by 3–5 years
- Design compatible with Wärtsilä *Fit4Fuels* for future fuel conversion

~4-6 MEUR/ship

Hybrid retrofit

- Hybrid conversion of Platform Supply Vessel Harvey Energy
- Zero-emission port operation, enhanced DP capability, 10–20% reduction in fuel consumption and emissions
- After the first successful conversion, the customer decided to upgrade four additional vessels

~1-2 MEUR/ship

Shaft generator retrofit

- Industry-first inline shaft generator retrofit for cape-size bulker Berge Toubkal
- Shaft generator systems use the main engine to supply auxiliary power, enabling lower fuel consumption and emissions, and imroved EEXI
- Opens a new pathway to sell shaft generators, also as retrofit

~1 MEUR/ship

1) Stand-alone value of decarbonisation services, excluding revenues from related retrofit projects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