9th June 2021

Novel propulsion arrangement by Wärtsilä and RINA can deliver immediate benefits

- *Single engine needed for both propulsion and electric power*
- *Ship design EEDI value can be lowered by up to 50 percent*
- *Immediate compliance with IMO 2030 targets*

The technology group Wärtsilä and the classification society RINA have announced a novel propulsion arrangement that offers full redundancy, less machinery, lower CAPEX, reduced operational complexity, and optimised fuel consumption to lower costs and achieve emissions compliance. The new concept changes traditional ship design thinking and offers a highly efficient, future-proof alternative.

The conventional approach in ship design has been to use 2-stroke engines for propulsion and 4-stroke engines for electric power generation. The Wärtsilä / RINA arrangement, however, requires just two 4-stroke dual-fuel (DF) engines, with options for electric power back-up from batteries or a small DF generator when the ship is idle. The design can achieve a reduction of up to 50 percent from the Energy Efficiency Design Index (EEDI) reference level value, and immediate compliance with the IMO's 2030 targets.

The arrangement features Wärtsilä 31DF engines operating with LNG fuel. Guinness World Records has recognised the diesel version of the Wärtsilä 31 engine type as being the world's most efficient 4-stroke diesel engine. The engine has exceptional reliability and performance, along with the flexibility to utilise future zero-carbon fuels, thereby facilitating the pathway to decarbonisation.

"At Wärtsilä we are committed to leading shipping into a new era of higher efficiencies, lower operating costs, and greater environmental sustainability. This cooperation project with RINA is fully in line with these ambitions, and we see this propulsion arrangement as being an important and value-adding option for the coming generation of newbuilds," says Lars Anderson, Director, Product Management & Sales Support, Wärtsilä Marine Power.

"We are really excited about this new concept as it represents a proven and more efficient solution than was earlier possible. The combination of fewer running components and 100 percent redundancy, with a single engine capable of handling both propulsion and electric power, even in port, promotes both safety and reliability. The highly efficient Wärtsilä 31DF engine enables ship owners to reduce fuel costs, while at the same time being proactively prepared for the fuels of the future," says Antonios Trakakis, Greece Marine technical Director at RINA.

At current shipping speeds, the system performance of the new arrangement provides at least the same, or better efficiency than an equivalent 2-stroke design. At slower speeds, it has the potential to reduce fuel consumption and emission levels even further. Overall, the arrangement is as easy and less costly than traditional 2-stroke propulsion systems.

Both Wärtsilä and RINA emphasise sustainability in their strategies and values, with a common desire to optimise the technological and operational aspects of the marine industry.

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Image caption: The new propulsion arrangement designed by Wärtsilä and RINA offers a future-proof and efficient alternative to conventional designs.

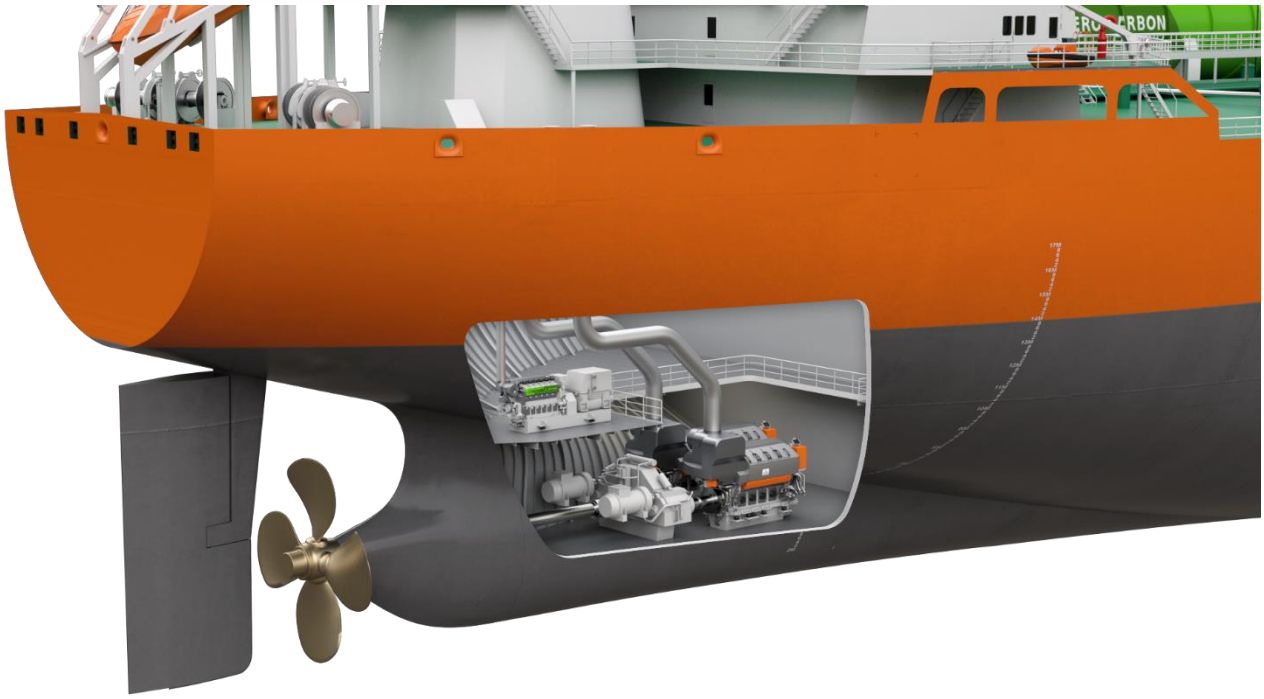

Image caption: The new design requires a single engine for both propulsion and electric power generation.
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Wärtsilä Marine Power in brief
Wärtsilä Marine Power leads the industry in its journey towards a decarbonised and sustainable future. Our portfolio of engines, propulsion systems, hybrid technology, and integrated powertrain systems deliver the reliability, safety, and environmental performance that Wärtsilä's Smart Marine vision encompasses. We offer our customers performance-based agreements, lifecycle solutions, and an unrivalled global network of maritime expertise.
www.wartsila.com/marine

Wärtsilä in brief:
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 2020, Wärtsilä's net sales totalled EUR 4.6 billion with approximately 18,000 employees. The company has operations in over 200 locations in more than 70 countries around the world. Wärtsilä is listed on Nasdaq Helsinki.
www.wartsila.com

RINA in brief:
RINA provides a wide range of services across the Energy, Marine, Certification, Transport & Infrastructure and Industry sectors. With net revenues in 2020 of 495 million Euros, over 3,900 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards.
www.rina.org