



PRESS RELEASE

RINA and SDARI to develop ground-breaking methanol/ammonia fuelled tanker design

RINA, a leading global classification society, and the Shanghai Merchant Ship Design & Research Institute (SDARI) have signed a Joint Development Project Agreement to develop a ground-breaking ship design capable of being fuelled by either ammonia or methanol.

Within the Agreement, SDARI will focus on the ship concept development and design while RINA will verify the compliance with the applicable rules, including those for the use of alternative fuels. The selected ship type is a tanker but the project, which is the first to investigate using both methanol and ammonia in this type of vessel, will increase understanding of the application of both fuels within the shipping industry with opportunities to apply designs to different types of ships. External support to the project will be provided by MAN Energy Solutions, a leader in dual fuel innovation.

Giosuè Vezzuto, Executive Vice President Marine at RINA, said: "Ship designs have come a long way in their efficiency, but to meet targets for reduced emissions we need to look to alternative fuels. A ship specifically designed and optimized for using ammonia and methanol as fuels offers a future proof, environmentally sustainable solution. This is an important milestone within the RINA set of initiatives on innovation and energy transition towards the compliance with IMO 2030 and IMO 2050. We are pleased to join forces with SDARI and believe this project will benefit the whole shipping industry, releasing the potential of both ammonia and methanol".

Wang Gang Yi, Vice President of SDARI, said: "SDARI will always invest important resources into R&D, producing more efficient ship concepts and designs and using innovative energy sources. We are pleased to be working with RINA on our common goals to provide increasingly reliable design solutions to meet the emissions targets set by IMO for 2030 and 2050".

Brian Østergaard Sørensen, Vice President and Head of R&D, Two-Stroke Business at MAN Energy Solutions Copenhagen, said: "We encourage industry-wide partnerships for decarbonising the marine market and are very happy to collaborate with such respected institutions as RINA and SDARI. While two-stroke engine technology will likely retain its influence within deep-sea shipping for



the foreseeable future, ammonia and methanol are fuels with a lot of potential as clean, zero-carbon fuels and with whom we have a lot of experience. We look forward to adding our expertise to the project".

RINA provides a wide range of services across the Energy, Marine, Certification, Transport & Infrastructure and Industry sectors.

With expected net revenues in 2020 of 485 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.

SDARI, a member of the China State Shipbuilding Cooperation (CSSC), is one of the largest and most prolific research and design institutes in China. Its services cover the full design life cycle from preliminary feasibility studies, through schematic, basic, and detailed design, to final production design.

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies.

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