Kongsberg Maritime will supply highly efficient PM propulsion for Rem Offshore's new wind farm service vessels

Sep 13, 2021 13:00 BST

Kongsberg Maritime to deliver PM propulsion for two new offshore wind vessels, built for Rem Offshore

Kongsberg, Norway, 13th September 2021 – Kongsberg Maritime has signed a contract with VARD shipyard to supply a large package of permanent magnet (PM) thrusters for installation on two new offshore wind farm maintenance vessels. The Construction Service Operations Vessels (CSOV) are to be built for Rem Offshore, and will make the shipping company the first in the world to install a PM package of this size from KONGSBERG.

The scope of delivery includes PM azimuth thrusters, together with PM tunnel thrusters and a retractable azimuth thruster. PM thrusters contribute to improved manoeuvrability, reduced noise – both in the vessel and in the sea - and higher propulsion efficiency, reducing both energy consumption and environmental emissions. The thrusters will be controlled by KONGSBERG's K-Master bridge solution, a complete working environment which combines dynamic positioning (DP) and manoeuvring functionality in an integrated, joystick-driven system which can be managed by a single operator.

The package leverages some of KONGSBERG's most innovative technologies, including solutions to limit vessel movement when close to wind turbines during service assignments and facilitate walk-to-work functionality. The thrusters' advanced propeller design has been developed at KONGSBERG's facility in Ulsteinvik, part of a cluster of maritime companies located in the Sunnmøre area in western Norway, and also home to Rem Offshore.

"In the maritime cluster at Sunnmøre, we have a tradition of working together to develop and be first to use new technology that gives us a competitive advantage," says Åge Remøy, Chairman of the Board, Rem Offshore. *"With this project, we are doing it again. Together with VARD and Kongsberg Maritime, we are building a sustainable platform for offshore wind service."*

PM thrusters differ from conventional thrusters in that the propeller blades are not driven directly with a motor and shaft. Instead, an electromagnetic field generates rotation around the outer edge of the propeller blades. This rotational force (torque) is produced by a compact and efficient PM motor integrated around the outer diameter of the propeller.

The system permits direct drive to the propeller, with no gears required, yielding a fast response time with the least possible energy use. This rapid power delivery helps KONGSBERG's control systems to reduce vessel movements in the sea. PM thrusters are also quiet compared with traditional thrusters, do not require an external cooling system, and take up less space – a consideration of great benefit to ship designers.

"This type of technology is key to the green shift for shipping," says Ottar Ristesund, SVP Sales, Kongsberg Maritime. *"A ship is a complex system of technologies, and our job is to offer integrated equipment that makes the ship a good long-term investment for shipping companies, regardless of the type of fuel to be used. PM technology offers flexibility for the future for vessel owners."*

The vessels will be designed and built by VARD Group, with the first scheduled to be delivered in the first half of 2023. The yard has an option to build two more vessels of the same design.

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About Kongsberg Maritime

Kongsberg Maritime is a global marine technology company providing innovative and reliable 'Full Picture' technology solutions for all marine industry sectors including merchant, offshore, cruise, subsea and naval. Headquartered in Kongsberg, Norway, Kongsberg Maritime has manufacturing, sales and service facilities in 34 countries.

Kongsberg Maritime solutions cover all aspects of marine automation, safety, manoeuvring, navigation, and dynamic positioning as well as energy management, deck handling and propulsion systems, and ship design services. Subsea solutions include single and multibeam echo sounders, sonars, AUV and USV, underwater navigation and communication systems.

Training courses at locations globally, LNG solutions, information management, position reference systems and technology for seismic and drilling operations are also part of the company's diverse technology portfolio. Additionally, Kongsberg Maritime provides services within EIT (Electro, Instrument & Telecom) engineering and system integration, on an EPC (Engineering, Procurement & Construction) basis.

Kongsberg Maritime is part of Kongsberg Gruppen (KONGSBERG), an

international, knowledge-based group that celebrated 200 years in business during 2014. KONGSBERG supplies high-technology systems and solutions to customers in the oil and gas industry, the merchant marine, and the defence and aerospace industries.

Web: Kongsberg Gruppen | Kongsberg Maritime

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About Rem Offshore

Rem Offshore was founded in 2017 and currently operates a fleet of 11 vessels, comprising seven platform supply vessels, two offshore construction vessels and two seismic vessels. The fleet has an average vessel age of seven years, making it one of the most modern fleets in the current market. The company's head office is in Fosnavåg, in the maritime business cluster on the north-west coast of Norway.

Web: Rem Offshore

About VARD

VARD is one of the major global designers and shipbuilders of specialized vessels. Headquartered in Norway and with approximately 8,200 employees, VARD operates shipbuilding facilities in Norway, Romania, Brazil and Vietnam. Through its specialized subsidiaries, VARD develops power and automation systems, deck handling equipment, and vessel accommodation solutions, and provides design and engineering services to the global maritime industry.

VARD's long shipbuilding traditions, cutting-edge innovation and technology coupled with its global operations and track record in constructing complex and highly customized vessels have earned it recognition from industry players and enabled it to build strong relationships with its customers.

The majority shareholder of VARD is Fincantieri Oil & Gas S.p.A., a wholly owned subsidiary of FINCANTIERI S.p.A. Headquartered in Trieste, Italy. FINCANTIERI is one of the world's largest shipbuilding groups, and a global leader in cruise ship design and reference player in all high-tech shipbuilding

industry sectors. With over 230 years of history and more than 7,000 ships built, the Group today has a production network of 18 shipyards operating in four continents and over 20,000 employees.

Web: VARD