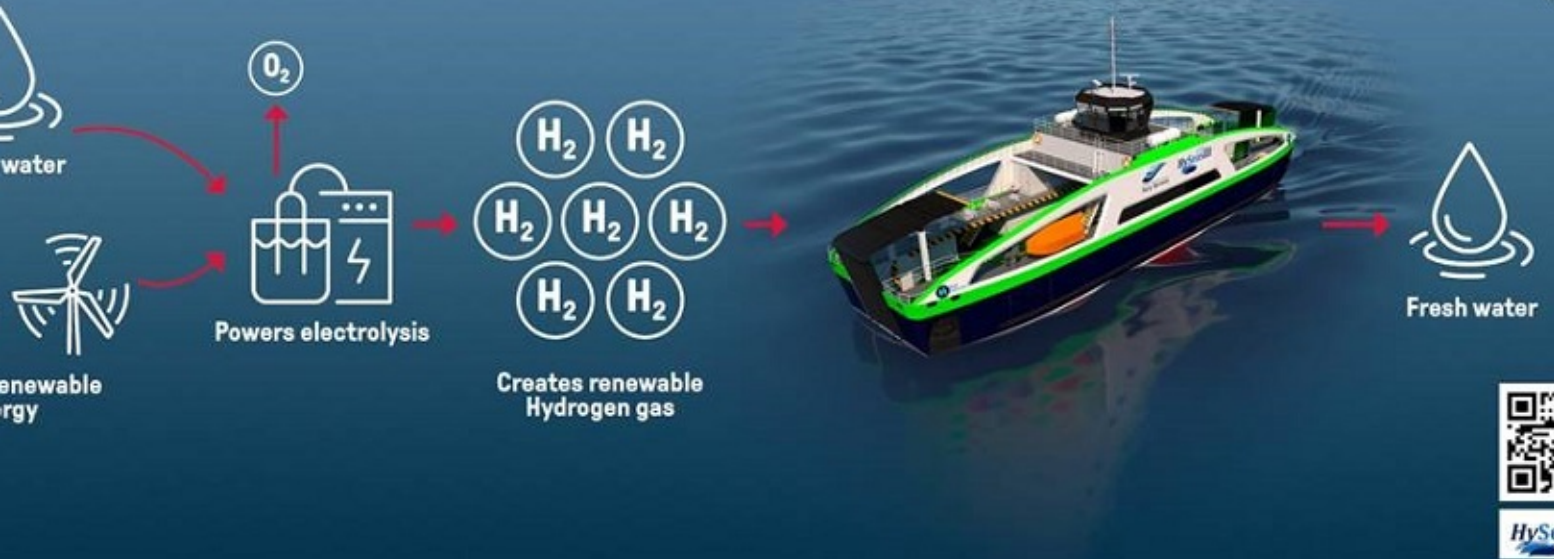


NO EMISSIONS – POWERED BY RENEWABLES



HySeas III marks the third and final development stage in an EU funded research programme dedicated to the design and manufacture of vessel drivetrains, and the vessels themselves, powered by hydrogen fuel cells

Dec 02, 2021 12:38 GMT

The world's first full scale hydrogen based propulsion system launched by Kongsberg

Kongsberg, December 1st: KONGSBERG has celebrated a world first by testing and verifying a full-scale, full-size, zero-emissions drivetrain powered by hydrogen fuel cells designed for ships and ferries. The project demonstrates that the technology is now mature for using hydrogen (H_2) as an energy carrier.

“With a verified and tested hydrogen-based propulsion system, we take the next

step in zero-emission solutions at sea. This project is another example of our world-leading Norwegian maritime cluster succeeding when we face the most demanding technological challenges”, says Geir Håøy, CEO of KONGSBERG.

The program is the third and final part of the EU funded project "HySeas" which has been running since 2013 to prepare and demonstrate a scalable hydrogen system for ships and ferries. KONGSBERG has been the technical lead of the project, which has involved participants from Scotland, Denmark, France, Germany, Sweden and England.

In this final stage, KONGSBERG has built a full-scale electric propulsion system based on hydrogen-powered fuel cells at Ågotnes outside Bergen. The system will now undertake a 4-month testing program for validation purposes with the aim of verifying the final design for an H₂-powered RoPax ferry. The drivetrain testing is intended to demonstrate the ease with which H₂ fuel cells can be successfully integrated with a proven marine hybrid electric drive system.

“The world looks to Norway for green and sustainable solutions at sea. What KONGSBERG and its partners have succeeded in achieving with this project is yet another proof of the internationally leading competence in the Norwegian maritime cluster. Now we have both taken the next step for solutions in Norway, and the next step for the Norwegian maritime industry to succeed in exporting hydrogen-based technology and solutions Internationally”. says Minister of Trade and Industry Jan Christian Vestre.

The testing mirrors the operational loads which would be experienced by a vessel on a route between Kirkwall and Shapinsay in Orkney. It will confirm safe operation and power and fuel capacity requirements, together with other valuable information to feed back to the vessel design team at Caledonian Maritime Assets Ltd (CMAL) in Scotland. CMAL plans to complete the design in March 2022. Hydrogen fuel will be generated through wind power at the ferry port.

“If we are to succeed with hydrogen investment in Norway, both to reduce national emissions and create new, green and sustainable jobs, we are dependent on being able to show complete pilots on a full scale. This means that the next step will be to show the technology in operation, and then quickly put in place the surrounding infrastructure. Orkney will be the first practical usage of this technology while the Norwegian maritime cluster has the opportunity develop our

own pilots and projects here in Norway”, says Egil Haugsdal, President of Kongsberg Maritime.

The full scale HySeas III test was launched at the KONGSBERG facility in Ågotnes, Norway on December 1st 2021.

Ends

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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.

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