

22 FEBRUARY 2024

WinGD and Mitsubishi Shipbuilding agree ammonia fuel supply system

Swiss marine power company WinGD and Japanese shipbuilder and technology developer Mitsubishi Shipbuilding Co., Ltd. have completed the initial design of an ammonia fuel supply system (AFSS) for vessels powered by WinGD's X-DF-A ammonia-fueled engines.

The AFSS design is the first result of a wide-ranging partnership announced last year that will develop solutions for ammonia engines and fuel systems that can be applied across a range of vessel designs. The project will now proceed to the detailed design phase, ensuring that ammonia capability is available to ocean going vessel operators ahead of regulatory requirements to reduce greenhouse gas emissions.

As well as the fuel supply system - including a fuel valve unit, fuel conditioning and all related piping - the concept includes several features to enable the safe use of ammonia as a marine fuel. These include an ammonia catching system as well as purging and venting arrangements.

Manabu Kawakado, Head of Marine Engineering Centre, Mitsubishi Shipbuilding Co., Ltd. said: "Our partnership with WinGD has made rapid progress in less than a year since we launched the cooperation. Concluding the initial AFSS design at this stage puts us in a strong position to offer a complete fuel system to ship operators as demand for carbon-free ammonia fuel grows over the coming years."

Sebastian Hensel, Director R&D, WinGD said: "At present, our primary focus is on advancing the technology of our clean-fuel solutions including our ammonia-powered X-DF-A engines, with the first delivery expected in Q2 2025. This collaboration will make sure that the auxiliary systems and integration capability are in place to apply our engine designs, and developing the fuel supply system concept is a crucial step in bringing ammonia fuel capability to the marine market."

Under the partnership, WinGD will develop X-DF-A engines at appropriate sizes for a range of vessel designs, providing the shipbuilder with the specifications for installing the engines and the requirements for all auxiliary fuel systems. Mitsubishi will design the vessels, set performance parameters for the engines and further develop its existing AFSS for use with WinGD's ammonia engines.

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WinGD in brief

WinGD advances the decarbonisation of marine transportation through sustainable energy systems using the most advanced technologies in emissions reduction, fuel efficiency, hybridisation and digital optimisation. With their two-stroke low-speed engines at the heart of the power equation, WinGD sets the industry standard for reliability, safety, efficiency and environmental design, backed by a global network of service and support. Headquartered in Winterthur, Switzerland since its origin as the Sulzer Diesel Engine business in 1893, today it is powering the transformation to a sustainable future.

WinGD is a CSSC Group company.

For more information visit: www.wingd.com