

Press Release

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“High Flow 4” – Voith expertise pooled in offshore construction vessel

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In January 2014, Mojo Maritime, the British marine renewable energy specialists, and Hammonia Reederei, a German ship owner based in Hamburg, signed a Memorandum of Understanding to finance and build the “High Flow Installation Vessel” (HF 4). With its ability to operate in currents up to ten knots using dynamic positioning, the special construction vessel is set to transform the offshore construction market. The HF 4 has a twin hull configuration designed by Voith and is powered by four Voith Schneider Propellers (VSP).

Engineered by Voith naval architects, the design is based on Mojo Maritime’s vision of a vessel designed to install tidal energy turbines in high energy tidal streams. With a length of 59.5 meters and a beam of 28.6 meters, the HF 4 boasts an open deck space of approx. 1,000 square meters, accommodates 44 people and has a maximum A-frame crane lift capacity of 250 tons. With these specifications, it can handle all tidal energy work steps – from the installation of the turbine support structure to the mounting of the turbine and the long-term maintenance of the unit – but also has much wider potential, including in the offshore wind sector and more general subsea construction market.

The twin hull design provides the stability required. “The center position of the moon pool allows operations to be carried out at the point of the least vessel motion during swells”, says Stefan Moyé, Engineering Manager at Voith Turbo Schneider Propulsion. “In addition, the extremely short response times of the Voith Schneider Propellers allow precise dynamic positioning, even under the most adverse tidal conditions.”

HF 4 seeks to minimize the installation risks of offshore construction projects while at the same time providing a significant reduction in installation

costs. “As an offshore service provider, we were able to draw up a detailed set of requirements for the ideal construction vessel. But we entered un-chartered waters when it came to the actual development”, says Richard Parkinson, Managing Director at Mojo Maritime, when asked to describe the challenges of the project. “Voith has been a competent and reliable partner to us throughout the entire process, and they managed to turn our vision into a ground-breaking, economically unique concept.”

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The development of the basic design by Voith included the calculation of damage and intact stability, the design of the steel structure as well as of the vessel outfitting and machinery systems. Following the Memorandum of Understanding, Mojo Maritime and Hammonia are now working together to appoint a shipyard to build the vessel.

The project is receiving support from the Technology Strategy Board – the UK’s innovation agency, whose goal is to accelerate economic growth by stimulating and supporting business-led innovation. Sponsored by the Department for Business, Innovation and Skills (BIS), the Technology Strategy Board brings together business, research and the public sector, supporting and accelerating the development of innovative products and services to meet market needs, tackle major societal challenges and help build the future economy.



The HF 4 combines a twin hull configuration and four VSPs to minimize vessel motions

Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions. Customers from highly diverse industries such as oil and gas, energy, mining and metal processing, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

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