Hybrid propulsion system

1. The W1100 Hybrid will feature Transfluid's HM3350-150 hybrid system and will have a 400Ah battery bank

A hybrid system perfectly suits the performance requirements of a fishing vessel in Norway

WORDS: **GIANLUIGI TARONI**

During Nor-Fishing Expo 2022, held in Trondheim in August 2022, Seigur Boats presented the first fishing boat for the Norwegian market to be powered by a Transfluid hybrid propulsion system. The W1100 Hybrid will measure 11m in length and weigh 15 tons. The vessel will use a 294kW (400hp) at 2,100rpm diesel engine and the Transfluid HM3350-150 hybrid system with a 400Ah battery bank. This special transmission makes it possible to integrate diesel engine power with the hydraulic and electric utilities on board. Another key aspect for a boat with single installation is redundancy in the propulsion system.

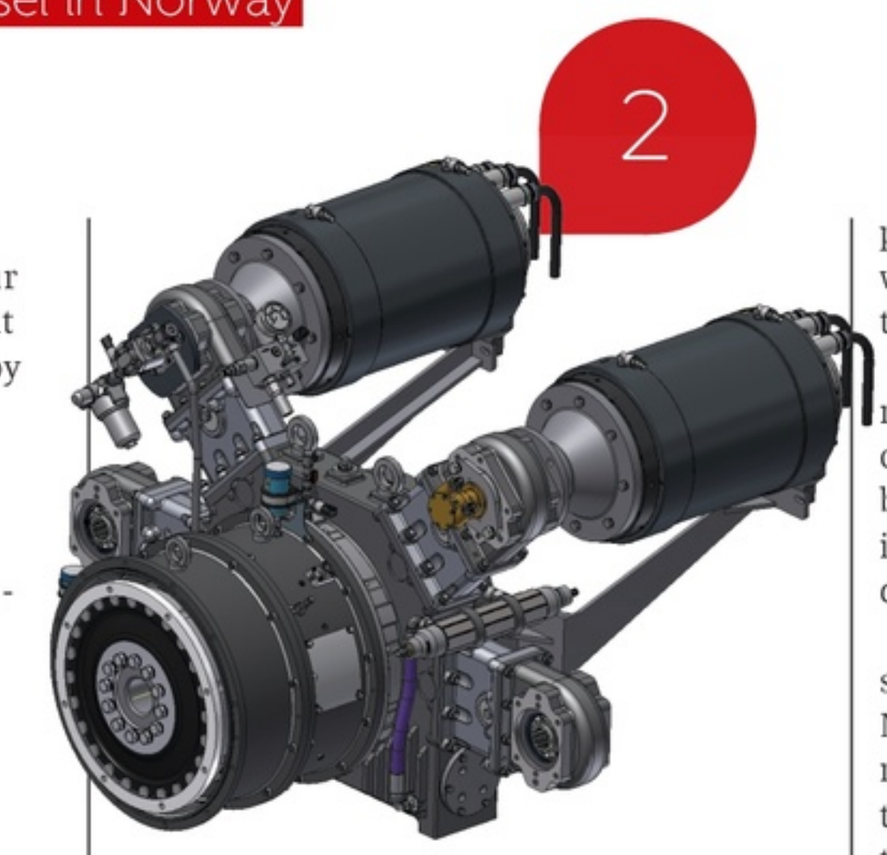
The installed solution will enable the vessel to navigate at a cruising speed of approximately 8kts in electric mode. It will be possible to navigate continuously with the electric motor driven by the onboard generator.

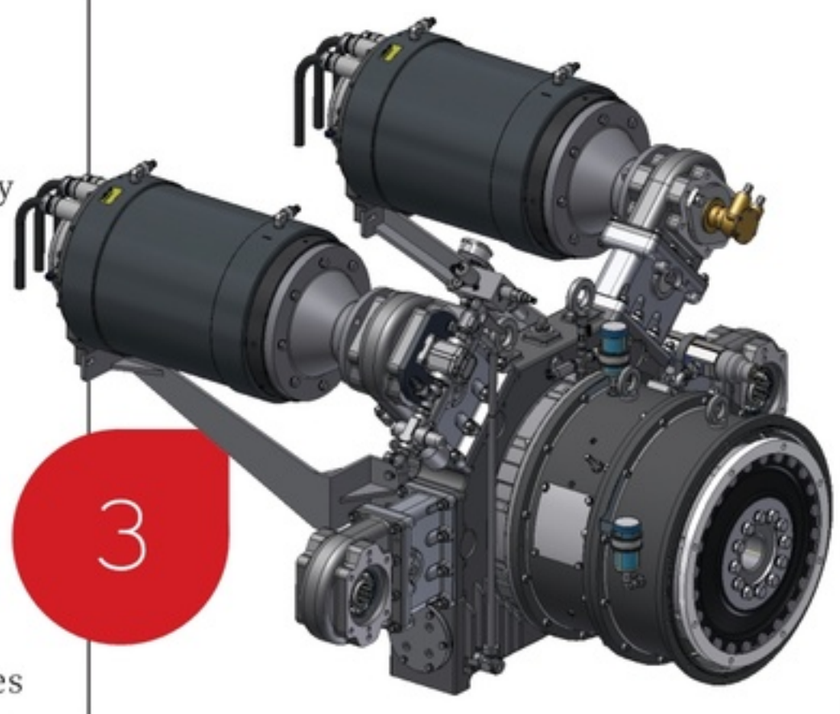
With Transfluid's hybrid system it is also possible to feed loads at 24V DC with up to 6kW of power, 230V AC with up to 8kW, two hydraulic pumps with a power of approximately 80kW each, and two water pumps for a fish-processing plant.

Vessel modes include diesel mode, which uses the diesel engine for propulsion; regeneration mode, which uses the diesel engine for propulsion and battery charging; generation mode, which uses the diesel engine in neutral for battery charging; electric mode, which uses the electric motor powered by batteries; and hybrid mode, which uses the electric motor powered by the onboard generator.

The battery can be recharged with the regeneration function of the hybrid system, or with the onboard generator via an 11kW battery charger. With this battery charger it is also possible to charge from the shore during a night stop.

The boat is equipped with a double control station as well as the Transfluid Remote Monitoring System, which enables the monitoring of vessel functionality and real-time diagnostics, ensuring Transfluid is able to provide the best services and support.





2. Propagation Test 1 (Item 3.1 in the NMA Circular) was passed with no propagation between cells

3. Installation of the Transfluid system enables the vessel to offer multiple operational modes

Approved technology

The Transfluid hybrid system has DNV-GL type approval, the batteries have fulfilled the requirements of the Norwegian Maritime Authority (NMA), and the boat has been approved by the Norwegian authorities.

After visiting Transfluid and testing vessels equipped with the Transfluid hybrid system, Sandis Povilauskas, owner of the Seigur Boats shipyard, has complete faith that the solution fully meets the needs of the Norwegian fishing market. Other boats have already been requested and contracts are being defined.

The presentation in Trondheim is the first stage in a process that will see the boat sail in 2023, with the vessel available for testing during the next edition of the fair.