

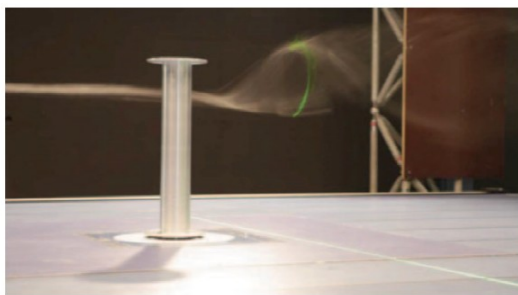
NEW PRODUCTS

◆ Eco Flettner rotors with two end plates are proven top performers

THE NUMBER OF ROTOR SHIPS IS INCREASING continuously which for potential customers, creates a situation that requires the comparison of performance characteristics, investment, operating costs, and life-cycle of Flettner rotors from different suppliers.

A major challenge is the quality and transparency of the available information. Up to now, there is no binding standard for how performance data should be validated. As the Eco Flettner rotor was developed within a publicly funded research project, data was validated within scientific standards and has been published.

To predict the propulsive power of a sail system, the aerodynamic performance characteristics are tested in the wind tunnel using scaled model tests



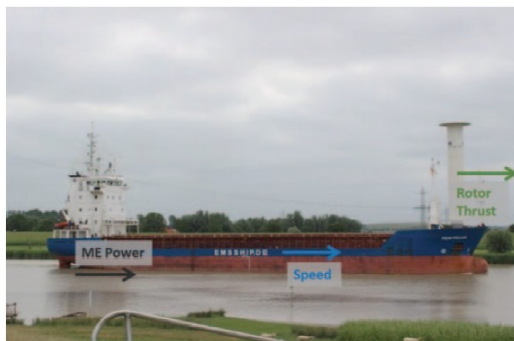
*Wind tunnel model testing of the Eco Flettner rotor.
(Source: University of Applied Sciences Emden/Leer/Germany).*

and extrapolating them to full-scale design, taking the laws of similarity into account.

Alternatively, computed fluid dynamics (CFD) can be used as a numerical method for forecasting. However, there are greater uncertainties involved, which can lead to considerable errors. CFD calculations should be validated against wind tunnel benchmark tests and used in a complementary manner (hybrid modeling).

Finally, there should be full-scale testing on board of the ship. As every methodology has its limitations, a precise performance analysis is ideally achieved by combining these three different methods.

The Eco Flettner rotor performance has been analysed and validated by this scientific approach. The full-scale measurement was based on direct rotor thrust, the ship's speed variation, and change in fuel consumption. The high quality of this data



*Principle of full-scale performance measurement.
(Source: University of Applied Sciences Emden/Leer/Germany).*

has been lately confirmed by a wind tunnel investigation at a renowned French aero-technical institute.

For shipowners, shipbuilders, designers, and other interest parties, the performance criteria of rotor sails can be identified and stated.

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◆ Austal Australasia to build first hydrogen-ready ropax

AUSTAL AUSTRALASIA HAS BEEN AWARDED a contract valued between A\$265m and A\$275m (\$170m) by Gotlandsbolaget of Sweden, for the design and construction of a 130-metre combined cycle, 'hydrogen-ready' vehicle passenger ferry.

Part of Gotlandsbolaget's 'Horizon X' programme, the high-speed ropax catamaran will be the largest vessel constructed by Austal, and feature a unique, highly efficient combined cycle propulsion system that includes both gas and steam turbines – a first for high-speed craft, worldwide.

With a capacity to transport up to 1,500 passengers, cargo and 400 vehicles, the 'Horizon X' multi-fuel catamaran will be designed by Austal with construction at the Austal Philippines shipyard commencing the first half of 2026; utilising "green aluminium", produced using energy efficient processes and technologies that use less carbon, resulting in lower emissions. Construction is scheduled to complete in mid-2028.

Announcing the contract, Austal Limited ceo, Paddy Gregg, said "Horizon X is an incredibly exciting project that is going to re-define commercial