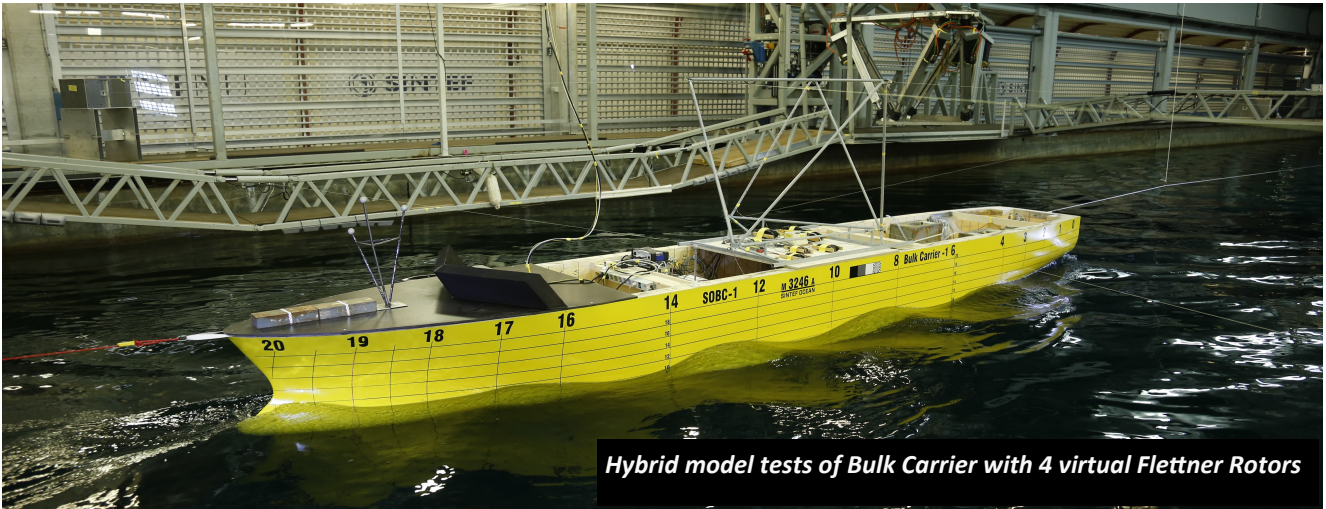


# Wind Propulsion at SINTEF Ocean

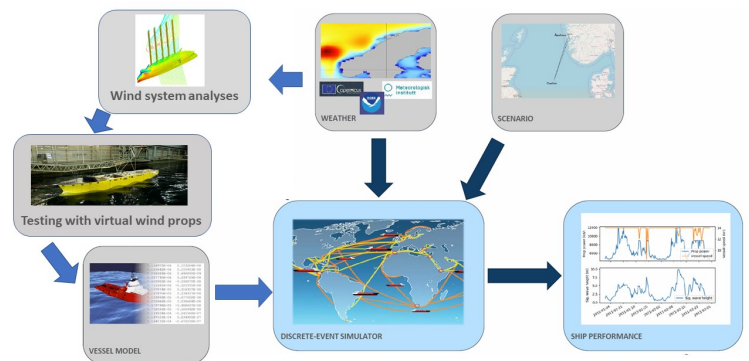
*Our combination of laboratory capabilities, software tools and multidisciplinary expertise enables us to undertake projects ranging from concept evaluations to holistic design and optimization studies of vessels with wind propulsion.*



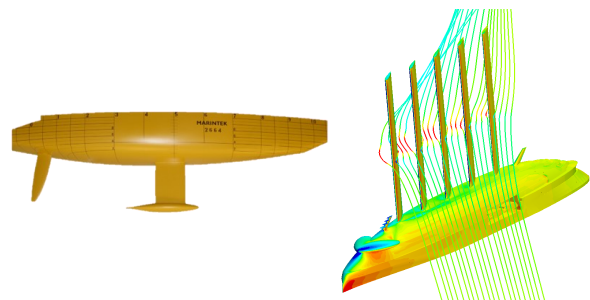
Through the combined use of our extensive facilities: the Towing Tank, Cavitation Tunnel, and Ocean Basin laboratories, equipped with specialised equipment and test techniques for ships with wind propulsion, as well as through CFD simulations, advanced numerical tools, and route simulation software, SINTEF Ocean can support on retrofits or newbuids with:

- Energy saving predictions in concept stage
- Manoeuvring and seakeeping predictions
- Detailed analyses and optimization of wind assisted vessels, through model tests and/or CFD simulations.
- Free-sailing model tests in the Towing Tank and Ocean Basin laboratories, including the effects of sails or rotors on propeller, seakeeping and manoeuvring characteristics.
- Route analysis, routing, and fleet logistical studies, including the impacts on zero emission fuel options, energy consumption, emissions and regularity.

- Sea trials, analyses and evaluation of continuous data collection.
- Third party evaluations.



**Route studies and energy saving predictions**



**Detailed analyses and optimization of wind propulsors, hull and appendages**