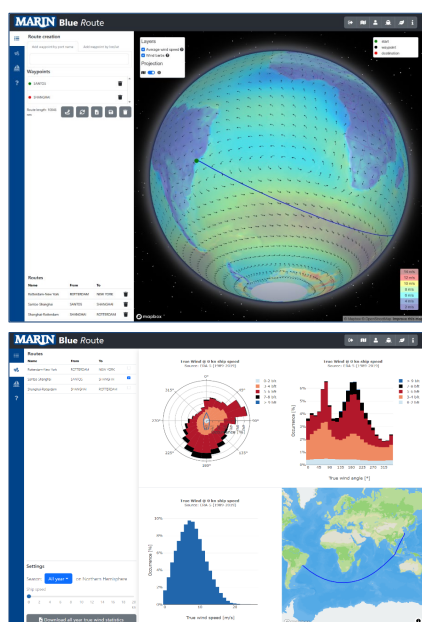


BlueRoute

Performance assessment of wind propelled vessels

BlueRoute (blueroute.application.marin.nl) is a web application developed by MARIN for the prediction of the fuel savings of wind propelled vessel in operational conditions. This is done by determining the 30-year average wind statistics (ERA5 1989-2019) for a user defined route and combining it with performance polars of the vessel.



Shortest route with the average yearly wind statistics over 30 years.

User defined ship and wind propulsion

Members of the user group can define their own vessels with wind propulsion, generating the related performance polars, and access also seasonal wind statistics. A user defined vessel can be created with limited data using default values and MARIN's estimation methods. At a later design stage high-fidelity data can be included using tabular data. This gives high flexibility and allows for predictions between assessment level I and III of the ITTC guideline.

The performance polars can be generated using a 1-DoF (Thrust equilibrium) and a 4-DoF (Thrust, side force, yawing moment, heeling moment) solver including environmental conditions such as windage and added resistance in waves.

BlueRoute user group

The BlueRoute application was initially developed within the Joint Industry Projects (JIPs) WiSP2 and WiSP3. Participants of the JIP's are also a member of the BlueRoute user group. However, the user group is also open to other participants upon payment of an annual fee. Membership provides access to additional features after login, user support, and the opportunity to contribute ideas and feedback for future developments.

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Ship performance polar (left) and average fuel consumption over a route with and without wind propulsion (right).

