

WIND CHALLENGER History

- 2009** The project was started as JIP (Joint Industry Project) with academia and industry. MOL was a lead of the shipping sector.
- 2018** This project was taken over by MOL as Social implementation project.
- 2022** The 1st WIND CHALLENGER ship "SHOFU MARU" was delivered.
- 2023** The SHOFU MARU has been awarded "The Ship of the Year Award 2022" by the Japan Society of Naval Architects and Ocean Engineers (JASNAOE).

After a long but steady period of research and development, WIND CHALLENGER has been unveiled to the shipping world.

And now, the fruits of this research and technology are set to be further refined by MOL's exceptional operational excellence.

MOL is committed to contributing to the world's decarbonization through wind power devices while ensuring safe and efficient navigation.



Innovative Sails for a Sustainable Future

What efforts can we make to help counter environmental issues? How can we move our technology forward?

By integrating wind propulsion technology with ICT for next-generation cargo ships with sails, our WIND CHALLENGER project provides a solution to reduce greenhouse gas emissions.

With our state-of-the-art ships, we are moving with the tailwind of the times to open up a new future for the global environment and shipping industry.



Mitsui O.S.K. Lines, Ltd.
Address: 1-1 Toranomon 2-chome, Minato-ku, Tokyo 105-8688, Japan
URL: https://www.mol-service.com/en/energy-saving_technologies/windchallenger/

Contact Site:



Corporate Site:



Movies for WIND CHALLENGER:

Project:



Sea Trial:



VOICE:



WIND CHALLENGER

Revolutionizing Maritime Efficiency.

Generates powerful thrust to significantly reduce greenhouse gas emissions.

By operational records, WIND CHALLENGER can reduce daily fuel consumption by 17% and average consumption by 5% to 8% per voyage on the SHOFU MARU, the pioneering WIND CHALLENGER ship.



Realized Fuel Savings
Daily: **17%** | Per Voyage: **5% - 8%**

UNIQUE DESIGN ATTRIBUTES

(1) Telescopic

Design for optimized gravity center control, enhancing visibility and ensuring safe maneuvering.

(2) FRP (Fiber Reinforced Plastics)

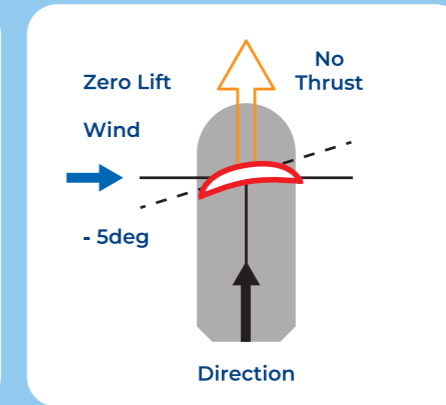
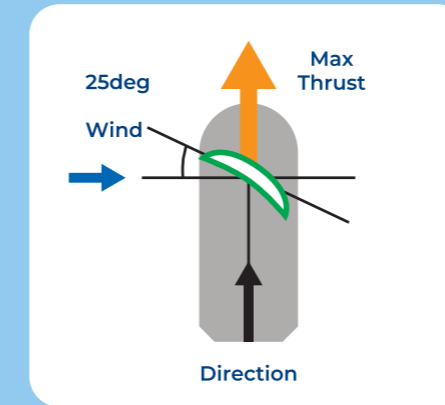
Constructed with Fiber Reinforced Plastics (FRP) to lower the center of gravity and increase thrust efficiency.

These innovations contribute to higher safety and efficiency.



ADVANCED CONTROL SYSTEMS

Featuring an integrated system with automated sail control and advanced weather routing, developed simultaneously to optimize performance.



Unique attributes include:

(1) Zero-lift angle

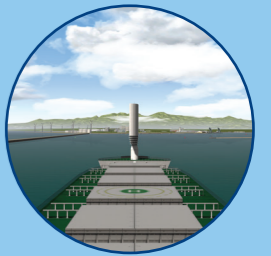
for minimal sail effect, ensuring safety in stormy conditions and during critical maneuvers such as drifting and anchoring.

(2) Multiple operational modes

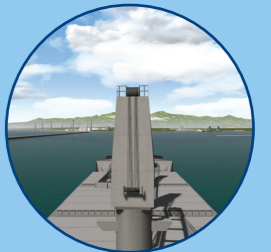
to enhance safety and adaptability during transit through narrow channels and during cargo operations.

WIND CHALLENGER has been developed by MOL as a ship operator. Our accumulated experience in voyage operation has been effectively applied for its design philosophy.

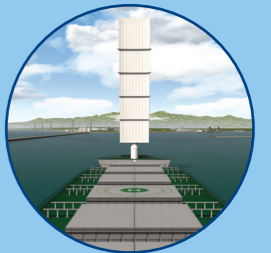
Visibility Study



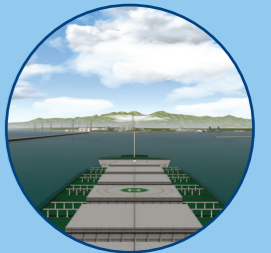
Under Pilotage, Narrow Channel



Wood Chip Carrier



Fully extended



Without sail

THE BEST SOLUTION

The SHOFU MARU represents our initial application; WIND CHALLENGER is designed for broad compatibility with various ship types, including CAPESIZE bulk carriers, LNG carriers, and oil tankers.

MOL is expanding the use of WIND CHALLENGER technology across its fleet, demonstrating its versatility and effectiveness.



CAPESIZE Bulk Carrier



SHOFU MARU 100K DWT Bulk Carrier



LNG Carrier



VLCC (Crude Oil Carrier)