

Press Release

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MOL Starts New Sailing Rig Onshore Demonstration Test - Jointly Developed with MES, Can Help Reduce CO₂ Emissions



Photo 1: Power Assist Sail prototype

TOKYO-Mitsui O.S.K. Lines, Ltd. (MOL; President: Koichi Muto) today announced start of an onshore demonstration test of a new prototype sailing rig (photo 1) that has great potential for reducing CO₂ emissions from vessels. Tests of the "Power Assist Sail" began at the Mitsui Engineering & Shipbuilding Co., Ltd. (MES) Oita Works last month.

MOL, MES (President: Takao Tanaka), Akishima Laboratories (Mitsui Zosen) Inc. (President: Junshi Takashina), and classification society Nippon Kaiji Kyokai (ClassNK; Chairman and President: Noboru Ueda) undertook a joint study of the Power Assist Sail, and produced the prototype for the demonstration test, which is large enough to use on an actual vessel.

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The Power Assist Sail provides supplementary propulsion force for the vessel by using the lift force of crosswinds, similar to the wings of an airplane, and drag from tailwinds.

The number of the sailing rigs to be used on a vessel will be adjusted based on scale of the vessel and the CO₂ reduction target, thus optimizing the system for individual ships. The goal is to install the sail rig without making major design changes to existing vessels, while reducing CO₂ emissions by 2-5%.

Through this onshore demonstration test, MOL will examine performance and durability of the equipment and fine-tune the equipment for use on actual vessels.

This initiative reflects MOL's effort to reduce CO₂ emissions as one of the environmental strategies in its single-year management plan RISE 2013. The company takes a proactive stance in introducing various technologies that will reduce the environmental burden of its business activities.

Specifications of Power Assist Sail

Overall height : 27.5m Sail height : 20.0m

Sail width : 10.0m Sail area : 200m²

Gross weight : About 60 tons Drive system : Hydraulic

Characteristics of Power Assist Sail



Photo 2: Stowage operation

1. Superior durability with aluminum alloy main unit and steel mast and drive system
2. Sailing-rig angle can be automatically controlled to gain maximum propulsion force according to wind direction, wind speed, vessel speed, and bow direction.
3. The lower part of the mast bends so the rig can be stowed in adverse weather conditions or when winds are calm (photo 2). This minimizes the effect on vessel operation when the system is not in use.

ClassNK's "Joint R&D with Industries and Academic Partners" program supported research and development efforts of the Power Assist Sail.