

**Mitsui E&S Shipbuilding Develops New Stern Fin:
Retrofitting for Decarbonisation in 56,000 DWT bulk carriers**

Mitsui E&S Shipbuilding Co., Ltd. (MES-S; President: Kenichi Shibata; Headquarters: Daiba, Minato-ku, Tokyo) developed the stern fins as a measure to improve fuel efficiency and reduce greenhouse gas (GHG) emission for MES-S built 56,000DWT Bulk Carrier*. The company has already received four orders for these products since last year, and is providing engineering support for retrofitting to existing vessels.

The stern fins have been designed to enhance propulsive efficiency, with a shape optimised through Computational Fluid Dynamics (CFD) analysis for the 56BC model. This is expected to result in approximately 3% of energy savings compared to an identical vessel without the stern fin.

The fins have also been designed with a very simple shape to facilitate ease of manufacturing and installation. This allows for retrofitting to be completed within the scheduled dry-docking period, without impacting the vessel's operational efficiency. The stern fins contribute to reducing both operational costs and GHG emissions.

In the face of mounting environmental regulations aimed at reducing GHG emissions, the shipping industry is under pressure to enhance its energy efficiency.

We are committed to contributing to the development of the maritime industry and the energy saving of vessels by expanding our installation of the stern fins for 56BC.

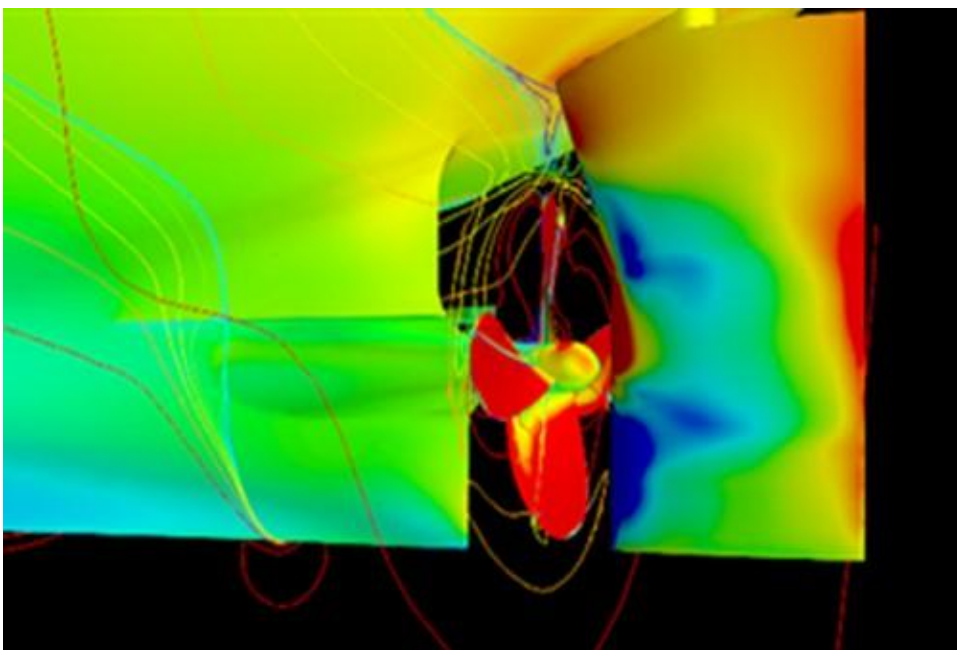
* 56,000 DWT bulk carrier: This is our best-selling ship type, with a cumulative total of over 170 ships built. The "neo 56BC" is a new ship type that has been well-received by customers and has been designed to improve on excellent propulsion efficiency and low fuel consumption performance that have been well-received in the past. This is achieved by adopting an electronically controlled engine and optimising the hull shape, building on the proven high versatility and reliability of the 56,000-tonne Handymax bulk carrier.

[Contact]

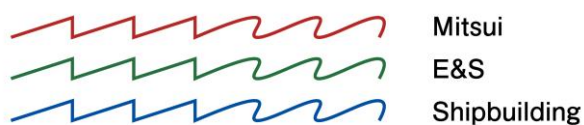
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the developed stern fin



CFD analysis of the developed stern fin



■ Mitsui E&S Shipbuilding Co., Ltd.

Mitsui E&S shipbuilding (HQ: 2-3-2, Daiba, Minato-ku, Tokyo, Japan) is a fabless engineering company which, with the core technologies of ship development, design and construction cultivated over 100 years, over 40 years of experience in constructing LNG carriers and autonomous ship maneuvering and digitalization technology, contributes to solving the issues and needs of both society and customers related to maritime transportation, such as engineering for alternative fuel, improvement of safety and working environment of ship's crew, etc.

Company info: <https://www.tsuneishi.co.jp/mes-s/en/index.html>

President & Representative Director: SHIBATA Kenichi

Business: Engineering Service, Engineering for Alternative Fuel and Gas-related Equipment, DX • Monitoring, Technical support

Founded: May 2017 (Established: 1917)

Capital: 100 million yen

Employees: 125 (as of 1st January 2025)

Shipbuilding Business Affiliates:

TSUNEISHI SHIPBUILDING Co., Ltd. (Fukuyama City, Hiroshima Prefecture, Japan)

<https://www.tsuneishi.co.jp/english/>

NIIGATA SHIPBUILDING & REPAIR, Inc. (Niigata City, Niigata Prefecture, Japan)

<https://www.tsuneishi.co.jp/nsr/>

Akishima Laboratories Inc. (Akishima, Tokyo, Japan)

<https://akishima-labo.co.jp/en/>