Contributing to the Customer's Business and Social Progress Mitsubishi Shipbuilding Co., Ltd.

Mitsubishi Shipbuilding Co., Ltd.
Planning & Administration Department

On January 1, 2018, the merchant shipbuilding business of Mitsubishi Heavy Industries Ltd. (MHI) made a new start with the establishment of Mitsubishi Shipbuilding Co., Ltd. (Mitsubishi Shipbuilding). The start of the shipbuilding business dates back to 1884 when Yubin Kisen Mitsubishi Kaisha (Mitsubishi Mail Steamship Company) Nagasaki Shipyard & Machinery Works was launched. Throughout our more than 130-year history in the shipbuilding business, we have built various types of vessels coping with the changes brought about by the severe market conditions.

At Mitsubishi Shipbuilding, we will continue to promote management innovation and technology development in the hope of contributing to the businesses of our customers and social progress.

1. History of the structural reform of the merchant shipbuilding business

MHI's Shipbuilding and Ocean Development Division has been reformed. First, in October 1, 2015, the Shipbuilding & Ocean Development Division at Nagasaki district was spun off to two companies: Mitsubishi Heavy Industries Shipbuilding Co., Ltd. which focuses on the building of gas carrier ships (LNG carriers/LPG carriers), which is a specialty field and improves production efficiency through continuous ship building; and Mitsubishi Heavy Industries Hull Production Co., Ltd., which promotes the rationalization of production, etc., through the specialized production of large hull blocks, a strength of Koyagi Plant of Nagasaki Shipyard & Machinery Works.

Furthermore, to meet the needs of the age such as modal shift and a response to environmental regulations, the previously spun-off two companies at Nagasaki district, MHI Headquarters and the Shipbuilding and Ocean Development Division at Shimonoseki district were reorganized as of January 1, 2018 and a new business promotion organization was constructed with the establishment of Mitsubishi Shipbuilding and Mitsubishi Heavy Industries Marine Structure Co., Ltd. (MHIMST, hereafter MST). At Mitsubishi Shipbuilding, efforts are being made for the construction of ships requiring intensive outfitting, cooperation with alliance partners, design supply, the expansion of the engineering business, etc., through the integrated engineering resources. On the other hand, MST carries out not only the construction of large ships and the manufacturing of hull blocks, but also the manufacturing of important functional units such as engines and propellers meeting recent environmental regulations and large marine steel structures, etc. as its core business.

These two companies are targeting sales of 200 billion yen per year in the future.

2. Mitsubishi Shipbuilding's growth strategy

2.1 Increase of construction efficiency and expansion of sales scale for ships requiring intensive outfitting

By integrating engineering resources and merging Shimonoseki's technical capabilities for outfitting and Nagasaki's technical capabilities for constructing hulls, we promote the increase of production efficiency and the expansion of sales scale for ships requiring intensive outfitting, which is our specialty (**Figure 1**).

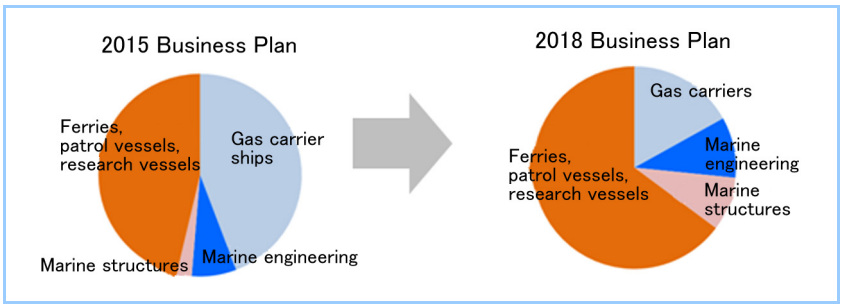

Figure 1 Composition of received orders by ship type

2.2 Expansion of businesses mainly in engineering

To meet the stricter environmental regulations, we will focus our efforts on developing ship models with good fuel consumption, designing propulsion plants using clean fuels such as LNG and LPG and the expanding adoption of SOx scrubbers (**Figure 2**).

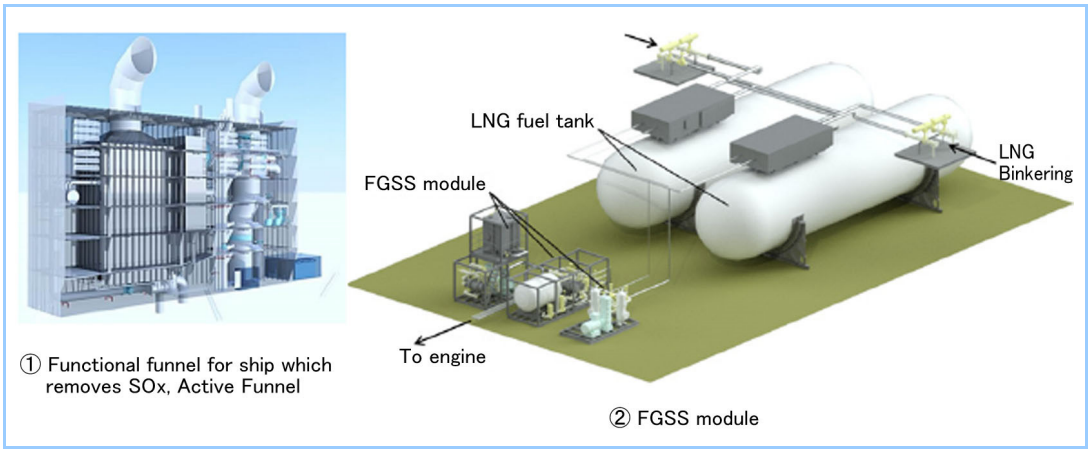

Figure 2 Engineering products

3. Product lineup (commercial ships)

3.1 Ferries, cargo and passenger ships

These ships are high-speed, economically-efficient and environmentally-friendly eco-ships (**Figure 3**, **Figure 4**).

Cabins featuring reduced noise and vibration can provide a comfortable and relaxing trip by ship.

Figure 3 Ferry, LAVENDER

Figure 4 Ferry, ISHIKARI

3.2 LNG carriers, LPG carriers

These carriers are lightweight, compact and high-performance gas carrier ships developed using our latest technologies for the hull-form development, analysis of structure, etc. MHIMST builds these ships. (**Figure 5**, **Figure 6**).

Figure 5 LNG carrier, SAYARINGO, DIAMOND GAS ORCHID

Figure 6 LPG carrier, ASTOMOS EARTH

3.3 RO/RO ships, car carriers

We build high-value-added ships equipped with stability recovery devices, etc., providing not only increased transport capacity, but also economic efficiency, reduced environmental load and increased safety (**Figure 7**).

Figure 7 RO/RO ship, FUJIKI

3.4 Special purpose vessels, patrol vessels

In 1922, we built Japan's first research vessel the “HAKUHO MARU,” and since then, we have delivered various types of special purpose vessels using advanced technologies, such as oceanographic research vessels, cable layers and submersible vehicles (**Figure 8**, **Figure 9**). We have also built many patrol vessels for the Japan Coast Guard (**Figure 10**), fisheries patrol vessels, etc.

Figure 8 Wide-area seabed research vessel, KAIMEI

Figure 9 Marine resources survey ship, HAKUREI

Figure 10 1000-ton-class patrol vessel, ZANPA

4. Engineering business

4.1 Shipbuilding engineering

To meet the needs of our alliance partners' shipyards, we provide engineering services using our engineering capabilities such as our most advanced hull-form development capabilities and advanced analytic technologies (**Figure 11**).

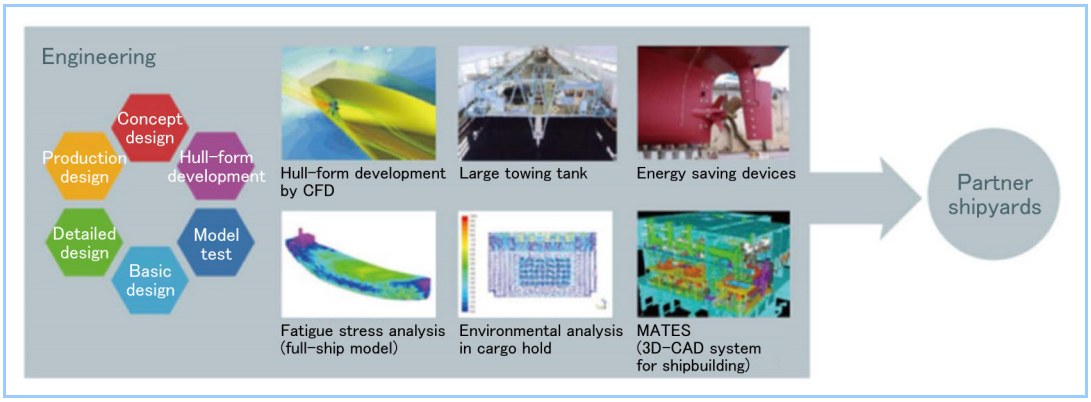

Figure 11 Overview of our shipbuilding engineering business

4.2 Marine solution provider

We provide packaged products developed for energy saving and environmental friendliness (**Figure 12**).

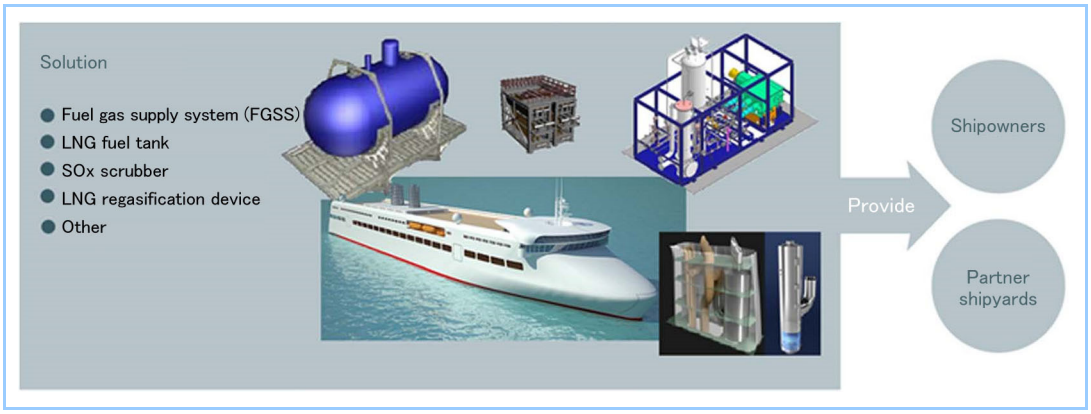

Figure 12 Marine solution provider

5. Future development

Mitsubishi Shipbuilding will continue to make every effort to understand the new needs of our customers and construct safe and environmentally-friendly ships that provide comfortable operations.

We will also actively promote “digitalization” using IoT/AI technologies to provide customers with new-era products and technologies such as autonomous navigation vessels as soon as possible, and continue to take on the challenge of changing our production technologies into innovative and advanced technologies so that we can show our presence in the shipbuilding industry around the world.