

Glossary (In alphabetical order)

■ Ballast Water

Ocean water that is taken in by the vessel to maintain ideal buoyancy and control the vessel when not fully loaded with cargo. Usually, ballast water is taken on when cargo is unloaded, and is discharged when cargo is loaded. Ballast water transports marine organisms across the ocean, which may have a negative impact on the preservation of marine ecosystems and biodiversity. After the Ballast Water Management Convention enters into force in September 2017, ballast water treatment systems must be installed in all ocean-going vessels within a certain period of time.

■ Chemical Tankers

Tankers fitted with multiple tanks to transport many different types of liquid chemical cargo at the same time. These tankers have complex design specifications, as they are equipped with independent pipelines, cargo pumps and temperature regulating functions for each tank, in addition to dedicated facilities for cleaning and other features.

■ Ethane Carriers

Ethane carriers are specialized for transporting liquefied ethane, which has been cooled to -92°C , and equipped with a reliquefaction system. LNG carriers transport cargo at -162°C , and LPG tankers transport cargo at -42°C , so ethane carriers fall somewhere between the two.

■ FPSO (Floating Production, Storage and Offloading System)

A floating facility for producing crude oil offshore. The crude oil is stored in tanks in the facility and directly offloaded to shuttle tankers for direct transport to the destination.

■ FSRU (Floating Storage and Regasification Unit) ■ FSU (Floating Storage Unit)

An FSU is a floating facility for storing LNG offshore. An FSRU has the same structure as an FSU with an additional function for regasification of LNG onboard, with which it can send out vaporized natural gas to land through a pipeline. Now, FSRUs and FSUs are being adopted for a growing number of projects to establish LNG receiving terminals all over the world because of their advantages, including a shorter lead time and lower costs compared to conventional onshore receiving terminals.

■ Highly Stable Profits

Profits that are stably generated by contracts of two years or more, and projected profits from highly stable businesses. Highly stable profits are currently provided by the following segments: Dry bulkers, Tankers, and LNG carriers/Offshore businesses under mid- and long-term contracts (two years or more); Associated businesses and Others.

■ Market Exposure

If vessels procured for the mid and long term (owned or mid- and long-term chartered vessels) operate only under short-term cargo transport contracts, these vessels are exposed to market rate fluctuations as a result of the mismatch between the vessel procurement and operating periods. MOL defines the number of mid- and long-term procured vessels operating under cargo contracts of less than two years as "market exposure," and monitors the ratio of its market exposure with the aim of controlling the risk of market fluctuation.

■ Pool Arrangement

Ship operators and owners pool certain ships to conduct joint operations.

■ RoRo (Roll-on/Roll-off) Ships

Featuring a ramp, these ships have a vehicle deck to hold trucks, trailers and other vehicles. Cranes and other loading equipment are not used in loading; instead vehicles are driven onto the ship. In general, while ferries transport passengers and personal-use automobiles in addition to freight vehicles, RoRo ships mainly transport freight vehicles.

■ Shuttle Tankers

Tankers that transport crude oil from offshore oil rigs, such as FPSOs, to onshore refineries as an alternative means of pipelines. Shuttle tankers are fitted with a unique system that enables cargo to be loaded from the bow of the vessel, rather than from the side like ordinary tankers, while maintaining a certain distance from the offshore platform.

■ Small- and Medium-sized Bulkers

In this report, small- and medium-sized bulkers consist of Panamax, Handymax and Small Handy dry bulkers that transport general bulk cargo, such as coal, grain, salt, cement and steel products.

■ SOx

The term "SOx" collectively refers to sulfur oxide emissions, including sulfur dioxide (SO_2), which are air pollutants emitted during the combustion of fossil fuels containing sulfur, such as oil and coal. In the marine transport industry, regulations requiring a drastic reduction in the sulfur content of fuel will come into effect in 2020, in order to curtail the amount of SOx in vessel emissions.

■ Subsea Support Vessels

Vessels designed for arrangement and technical support work during exploitation of offshore oil and gas fields.

■ "Visualization of Marine Operations"

Measures to provide visualization of the conditions of vessels and cargo at sea using ICT, thereby achieving optimal vessel operations, in conjunction with providing value-added services to customers. For example, big data on weather and sea conditions is analyzed and effectively utilized to achieve safer vessel operations and optimal routing. In addition, measures will be taken to improve the safety of vessel operations and ship management efficiency, including remotely monitoring the operational status of engines and other machinery and making maintenance arrangements in advance.

■ Yield Management

In the containership business, this refers to a management technique to maximize profitability for the round-trip voyage of each container. Freight rates are set and sales activities conducted to maximize net proceeds (gross profits calculated by deducting direct costs from freight revenues) rather than freight rates themselves. Direct costs include loading and unloading costs, feeder costs, and the costs of returning empty containers (calculated to reflect the aspect of surplus and shortage of containers at each point).