

September 8th, 2021
Marubeni Corporation
Mitsui O.S.K. Lines, Ltd.

Conclusion of Memorandum of Understanding on Joint Study for the Building, Operation & Utilization
of a Methanol-Fueled Carrier of Methanol to be Produced in Amur Region, Russian Federation

TOKYO—Marubeni Corporation (Marubeni; President & CEO: Masumi Kakinoki; Headquarters: Chiyoda-ku, Tokyo) and Mitsui O.S.K. Lines, Ltd. (MOL; President & CEO: Takeshi Hashimoto; Headquarters: Minato-ku, Tokyo) today announced that on September 3, during the Eastern Economic Forum in Vladivostok, Russia, Marubeni and MOL signed a memorandum of understanding (MoU) with the Ministry of the Russian Federation for Development of the Far East and the Arctic Regions ^(Note 1), State Development Corporation VEB.RF ^(Note 2), VTB Bank ^(Note 3), and ESN Limited Liability Company (ESN Group) ^(Note 4) for a joint study to build, operate, and utilize a methanol carrier equipped with a dual-fuel engine (methanol/very-low sulfur fuel oil).

For the marine transportation of methanol which the ESN Group plans to produce from natural gas in the Amur Region of Russia, the MoU will consider introducing an environment-friendly vessel which can reduce emissions of sulfur oxides (SOx) by up to 99%, particulate matter (PM) by up to 95%, nitrogen oxides (NOx) by up to 80% and carbon dioxide (CO₂) by up to 15% compared to conventional fuel oil. This is achieved by utilizing the methanol as a bunker to move the vessel.

Because methanol is liquid at normal temperature and pressure, it has the advantage of low marine transportation costs. On land, it can also be stored in ordinary tanks for liquids as a supply base.

Marubeni and MOL will consider developing a project that would supply methanol as marine fuel should the demand of methanol as fuel for common vessels grow in the East Asian region in future, as there is a possibility that this methanol which is to be produced and exported by the ESN Group will become a competitive supply source located within the region.

Marubeni and MOL will drive the project in collaboration with customers and partners in Japan and overseas and in cooperation with the government-related organizations, with the aim of further reducing the environmental impact of ocean transport.

(Note 1)

Name: Ministry of the Russian Federation for Development of the Far East and the Arctic Regions

Minister: Alexey Chekunkov

Locations: Moscow, Khabarovsk, Vladivostok, Petropavlovsk-Kamchatskiy

Administrative role: Economic and social development of the Far East Russia



(Note 2)

Name: State Development Corporation VEB.RF

Head Office: St. Petersburg

Outline: Governmental financial institution of the Russian Federation

(Note 3)

Name: VTB Bank

Head Office: Moscow

Outline: Governmental financial institution of the Russian Federation

(Note 4)

Name: ESN Limited Liability Company

Head Office: Moscow

Outline: ESN, established in 1991, is a Russian private-equity company. It initially focused primarily on the oil, gas and retail sectors and recently is diversifying the portfolio into energy, IT, venture and media. Head quarter is in Moscow.

About Marubeni Corporation

A general trading company founded in 1949. Marubeni Corporation and its consolidated subsidiaries use their broad business networks, both within Japan and overseas, to conduct importing and exporting (including third country trading), as well as domestic business, encompassing a diverse range of business activities across wide-ranging fields including lifestyle, ICT & real estate business, forest products, food, agri business, chemicals, energy, metals & mineral resources, power business, infrastructure project, aerospace & ship, finance & leasing business, construction, industrial machinery & mobility, and next generation business development. Additionally, the Marubeni Group offers a variety of services, makes internal and external investments, and is involved in resource development throughout all of the above industries.

About Mitsui O.S.K. Lines, Ltd. (MOL)

Founded in 1884, and headquartered in Tokyo, MOL is one of the world's top shipping companies. It owns the largest methanol fleet in the world (17 vessels), among its 800 ships transporting various cargoes such as natural resources, energy, raw materials, and finished products, and in 2016, it started operation of world's first methanol carrier powered by a dual- methanol fuel engine.