MITSUI E&S

Engineering & Services for Evolution & Sustainability

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MITSUI E&S Co., Ltd.
6-4, Tsukiji 5-chome, Chuo-ku, Tokyo 104-8439, Japan
www.mes.co.jp

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MITSUI E&S Co.,Ltd.

CORPORATE GUIDE

Helping to build a sustainable society with engineering and services

Engineering & Services for Evolution & Sustainability

We were established in 1917 as the Shipbuilding Division of the former Mitsui & Co. For more than 100 years since then, we have been operating a wide array of businesses with a focus on the marine domain. And in April 2023, we ceased to be a pure holding company, which we had been since 2018, and made fresh start as MITSUI E&S as a business holding company.

E&S in our new trade name, MITSUI E&S, signifies “Engineering & Services for Evolution & Sustainability” as the significance of our existence (purpose). We aim to help build a sustainable society with engineering and services by addressing social issues, such as a decarbonized society and a shrinking population.As paths to achieving our vision and as our major growth strategies, we have adopted a green strategy and a digital strategy. The green strategy includes the development and market launch of products for clean new fuels in the core businesses of marine propulsion and port logistics. The digital strategy includes enhancing maintenance services and the remote operation and automation of port cranes through digital transformation (DX). We will create new value with these strategies.

We will fulfill our role not only as a manufacturing group with leading shares in marine engines and port cranes but as an engineering supplier which also operates peripheral businesses beyond the framework of manufacturing. Based on a market-oriented perspective, we will continue to think about and provide the kinds of services and solutions we can offer leveraging our technical resources to solve social issues. By doing this, we will remain indispensable to society.

With our fresh start, please stay tuned, there is more to come for the MITSUI E&S Group going forward.

President & CEO, Representative Director

Takeyuki Takahashi

Our mission

We build trust and contribute to society
through our engineering and services.

Vision in 2030

In the marine domain,
we create a carbon-free society and resolve challenges
induced by depopulation.

Management Policy

Create new value together with customers
Seek a sound financial structure and steady profit
Accelerate the resolution of sustainability issues

Standards of Conduct

Endeavor to provide simple, unique and practical
products and services

GREEN Solution

Protecting the global environment by decarbonizing our market-leading products

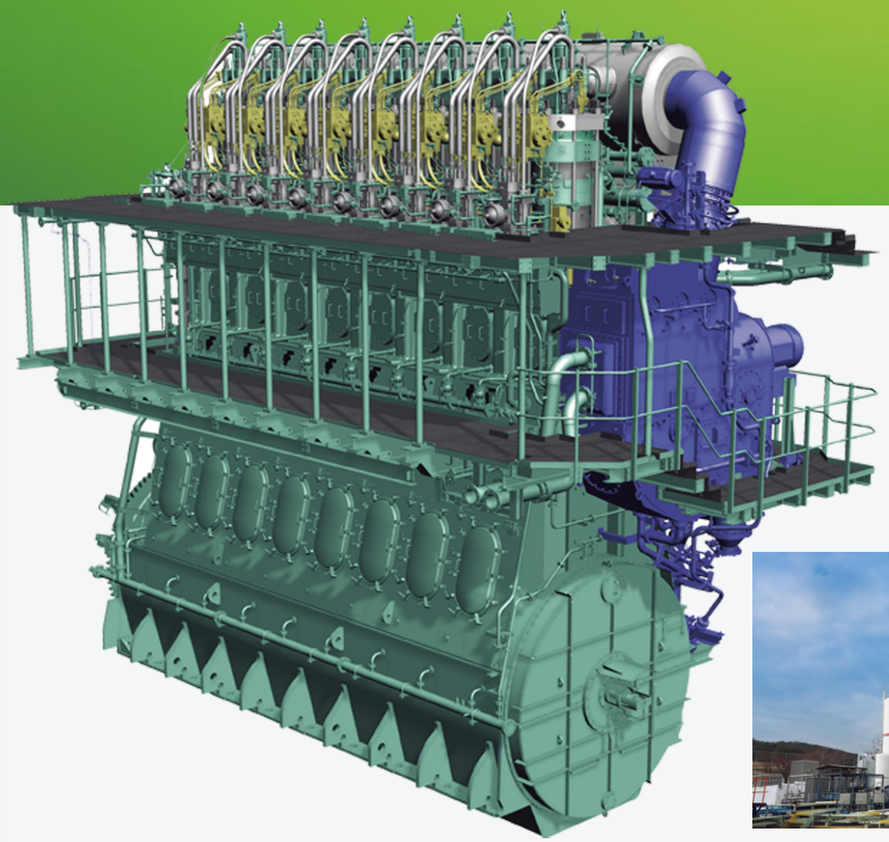
What can we do in the ocean to help build a sustainable society?
As the leading company in the marine domain,
we will be strongly aware of our missions while
we provide engineering and services for building a decarbonized society.

Main topics

- AiP obtained for the design of an ammonia-fueled ship
- Transfer of business related to large engines and products incidental to them from IHI Power Systems Co., Ltd.
- Commercialization and delivery of Near Zero-emission (NZE) Transtainers®

Marine propulsion system

For more than 90 years since the production of our first diesel engine in 1928, we have created a history of performance as the leading marine engine manufacturer in Japan.In addition, we explore possibilities of new fuels that are deemed promising for achieving carbon neutrality in marine transportation, including LNG, methanol, ammonia, and hydrogen, in an omnidirectional manner. We are developing technologies as a comprehensive engineering supplier covering marine engines, fuel tanks, and fuel supply systems.



LNG fuel gas supply system (FGSS)

Port cranes

We took a technical licensing agreement with PACECO®., Inc., which manufactured the world's first container crane, as an opportunity to manufacture Japan's first container crane in 1967. We have since gained overwhelming visibility and market shares. In recent years, we have developed a hybrid, Near Zero-emission crane, which reuses the regenerative energy that is generated during container handling. We have also been able to achieve zero emissions through replacement with hydrogen fuel cells, thus accelerating technological innovations aimed at decarbonization.

Transtainer® (Transfer Crane in Container Yard)

Portainer® (Quayside Container Crane)

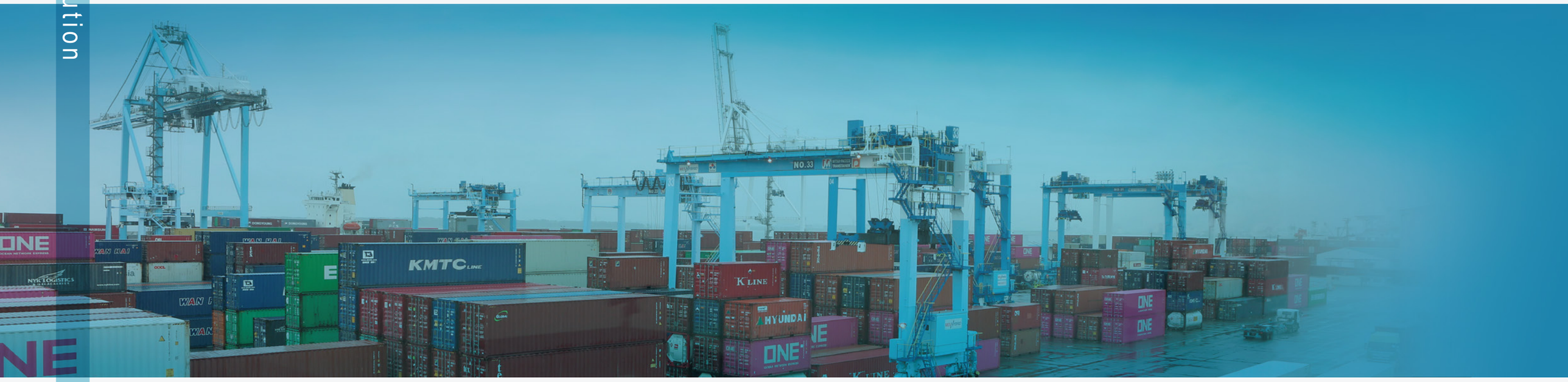
DIGITAL Solution

For safer, more efficient marine transportation and port logistics

Marine transportation and port logistics are growing increasingly important.
On the other hand, labor shortage has been a social issue in society with a shrinking population.
We will provide solutions to the issue by making full use of digital technologies.

Main topics

- **Delivery of remote-controlled Transtainers®**
- **Tests begin for applying local 5G communication to remote-controlled Transtainers**
- **Establishment of a technology for remote indirect visual inspections with self-flying, self-shooting drones**



Remote-controlled, automatically operated port cranes

We provide technologies for remote and automated operation of port cranes to solve the labor shortage reflecting the declining birthrate and an aging population. We thus contribute to improving the efficiency and safety of container handling.

Operator station of remote and automated Transtainer

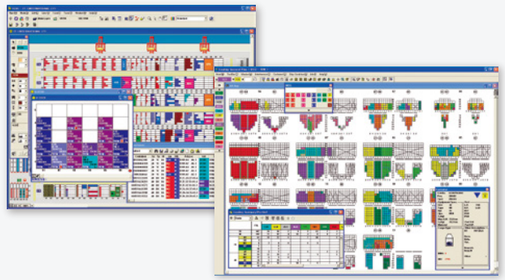
e-GICS Advance

Operating data are collected from marine engines, and performance diagnosis and combustion diagnosis are performed on our e-GICS database on shore, all automatically. This makes it possible to identify signs of an abnormality at the initial stage, thus minimizing trouble and supporting safe operations.

Trends in abnormality score displayed by e-GICS Advance (example)

CTMS (Container Terminal Management System)

Having started in 1973, we have introduced a large number of total package systems, which enable smooth container terminal operations, to customers in Japan and other countries. We have also delivered CTMS for First Automated Container Terminal in Japan. We aim to help optimize the operation of logistics, energy, etc. in the entire port.



Crane inspections using an aerial drone

We are developing technologies for replacing the conventional visual inspections of port cranes with inspections based on photography using a self-flying drone for higher efficiency. The technologies will also be linked to CARMS(Crane Advanced Remote Monitoring System), contributing to efficient operation of port cranes.

Using a drone to inspect a crane