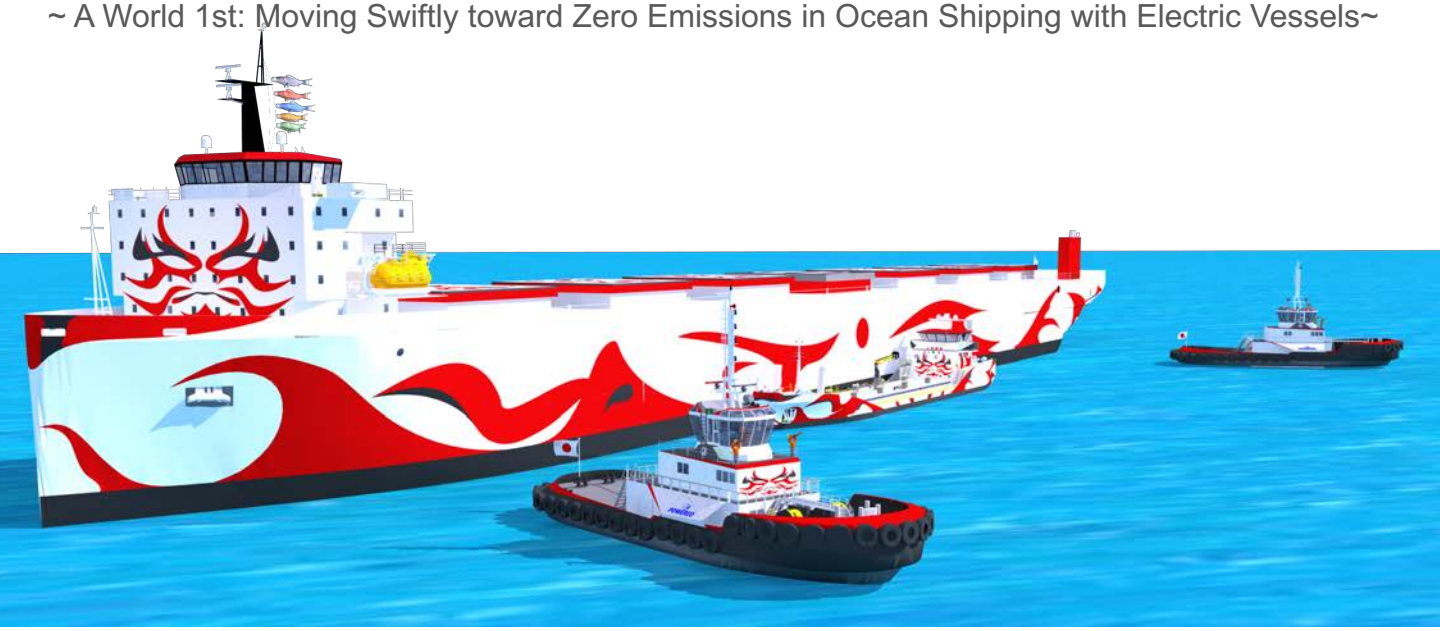
Ocean-going ROBOSHIP Ver. 1.0
e5 Lab Announces Concept for Large Electric-powered Bulk Carrier

~ A World 1st: Moving Swiftly toward Zero Emissions in Ocean Shipping with Electric Vessels~



TOKYO—e5 Lab, Inc. today announced the completion of the concept model for the world's first large electric-powered bulk carrier. The company aims to realize sustainable ocean shipping industry with zero emission electric-powered vessels.

e5 Lab positions the vessel as the basic type of "Ocean-going ROBOSHIP Ver. 1.0."

As an electric-powered vessel promotion strategy aimed at establishing a decarbonized society, e5 Lab will offer electric-powered vessels featuring the world's most advanced electric propulsion systems, at the most competitive price in the global market.

In this development project, e5 Lab will also realize zero emissions in harbors and ports, with strategic partners in Japan and overseas including Mitsubishi Shipbuilding Co., Ltd.(*)

Background: Development of large-size ocean-going electric-powered vessel

Ship × Sustainability × Innovation

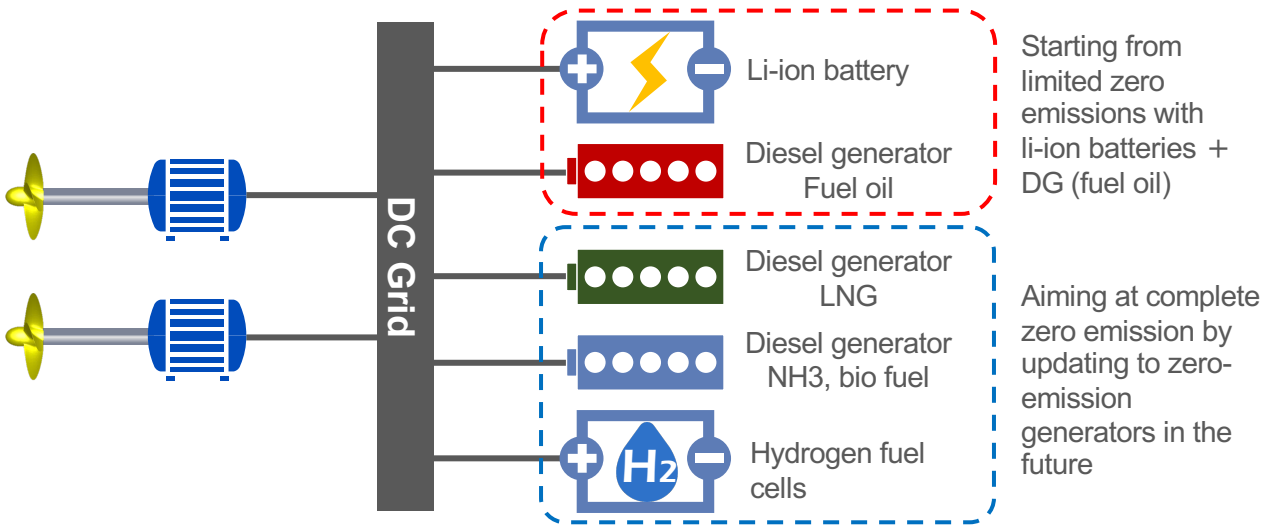
"What kind of vessel is most in demand around the world?"
- ✓ A vessel uncompromisingly committed to "safety"
- ✓ A vessel uncompromisingly committed to "the environment"
- ✓ A vessel uncompromisingly committed to "evolution"

e5 Lab will realize ocean-going ROBOSHIP Ver. 1.0, max class. starting with an 86,000DWT bulk carrier in the Kamsar
Along with its partners, e5 Lab will accelerate the achievement of a sustainable society by expanding its lineup of ocean-going electric-powered vessels to help them gain wider acceptance in the marketplace.
The company's goal is to start "a revolution that creates the next century of ocean shipping" from Japan to the nations around the world.

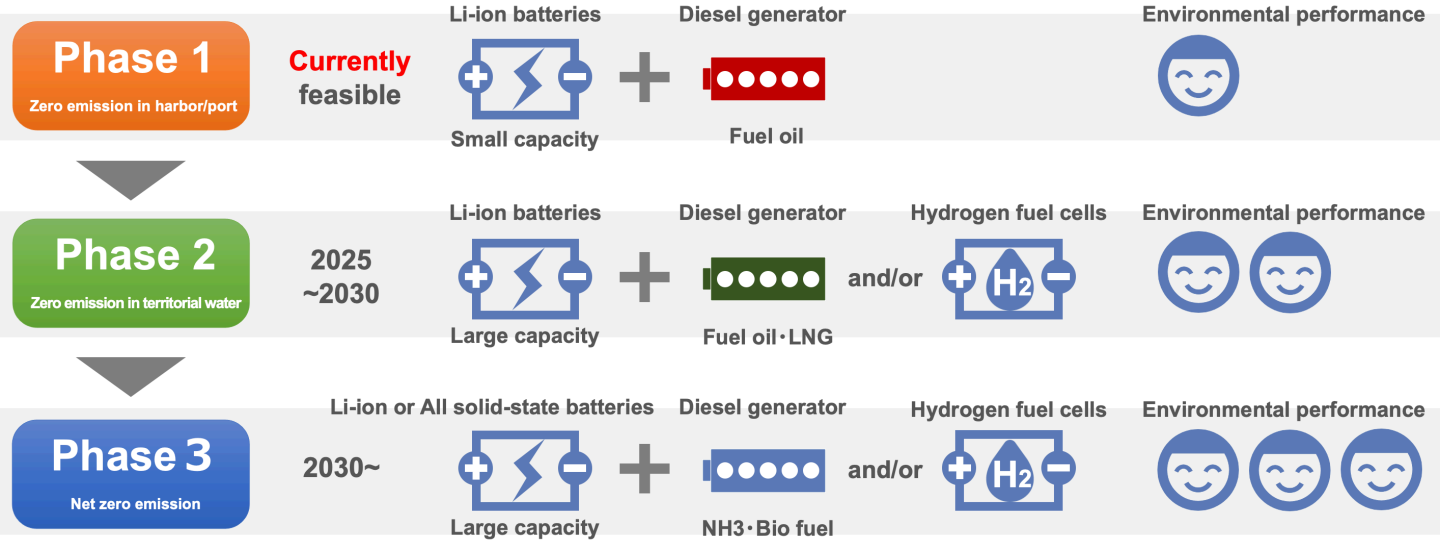
Basic type of “ocean-going ROBOSHIP Ver. 1.0.”

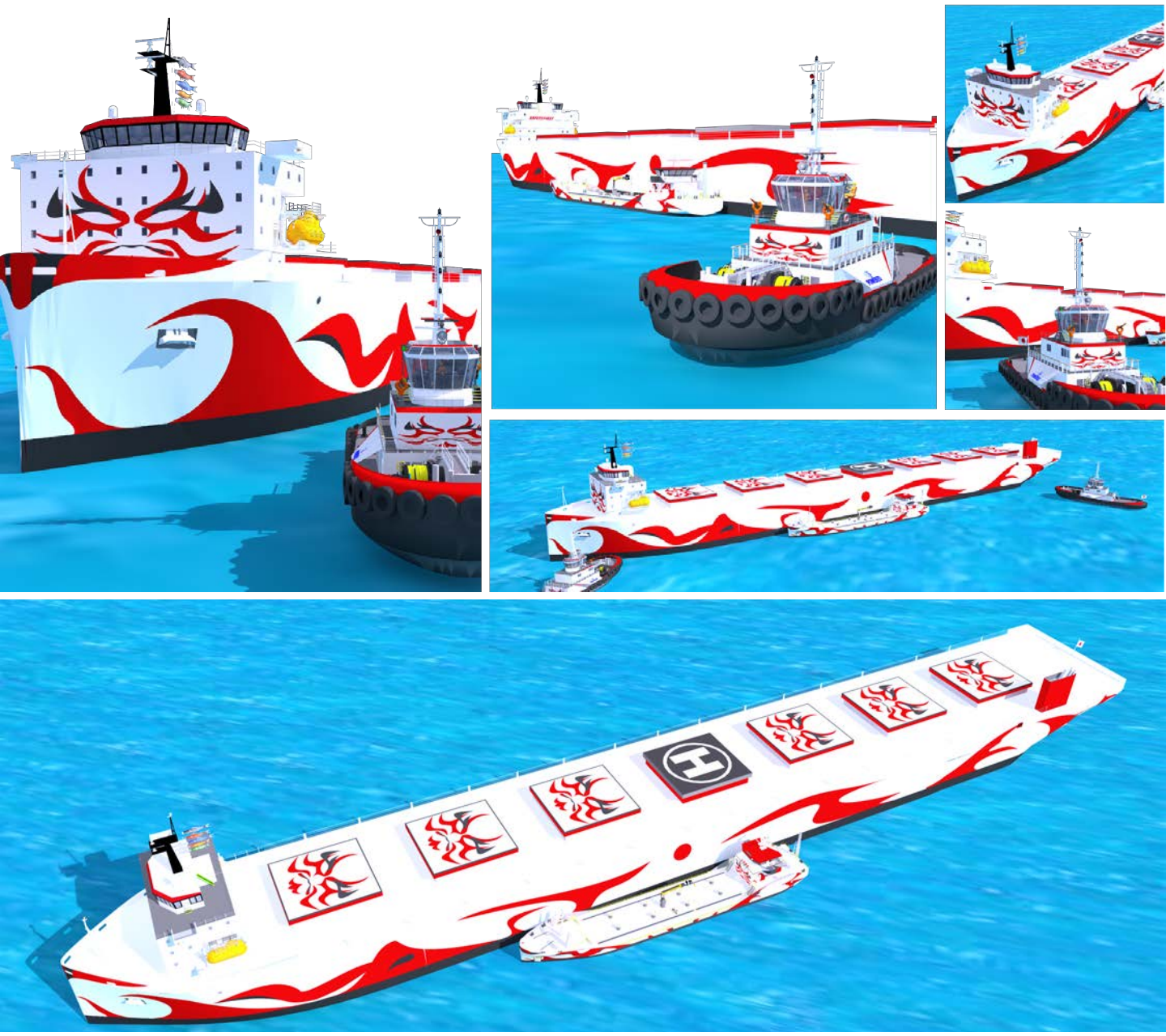
The vessel will achieve the same levels of cruising range and speed as conventional vessels in service, while achieving zero-emission operation in harbor and port, by using not only large-capacity rechargeable batteries, but also with diesel generators, based on the electric-powered vessel powertrain platform, which was designed and planned by e5 Lab.
It will achieve higher energy efficiency than current vessels by leveraging e5 Lab’s knowledge and experience, as well as its partners’ world-leading technology, such as artificial intelligence (AI) and the most efficient electric devices (DC grid, PM motors, and so on).
ROBOSHIP Ver. 1.0. will significantly reduce the workload of seafarers, while reducing maintenance costs and ensuring trouble-free operation, thanks to all-electric propulsion, which drives the motor using only electricity.
In addition, electric-powered vessels are easy to equip with double-shaft propellers, which enhance safety by improving operability, and its wide-breadth configuration will increase the cargo capacity.
The ROBOSHIP continually evolves from the aspects of both safety and efficiency, based on the EV Platform and the Digital Platform “Marindows”※.” ※ Patent pending

Outline of ocean-going ROBOSHIP Ver. 1.0. power train



ROBOSHIP Ver. 1.0.: Milestones from limited zero emissions to net zero emissions





About e5 Lab Inc. (Headquarters: Chiyoda-ku, Tokyo)
A provider of ocean shipping solutions based on electrification and digitalization of ocean-going vessels. e5 Lab's mission is to create sustainable coastal shipping, which is the lifeline of Japan. The company aims to contribute to society through its efforts on safe operation of vessels and global environmental conservation, by combining cutting-edge technologies and ideas to create added value, and solving the issues facing coastal shipping.

▼ Website
http://e5ship.com

▼ "e5 Lab Inc." promotion video
https://youtu.be/6sJjzCbRFWw

For further information, please contact:
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(*) **Mitsubishi Shipbuilding Co., Ltd.**
The company goes beyond "shipbuilding," becoming an "ocean system integrator" that aims to exercise its wisdom to create and shape new innovations at sea.