

IRSO2025, September 22-25, 2025, Bergen, Norway

MOL's Initiatives for Japan's Arctic Research Vessel “MIRAI II”

2025/09/25

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Updates of Arctic Research Vessel “MIRAI II”

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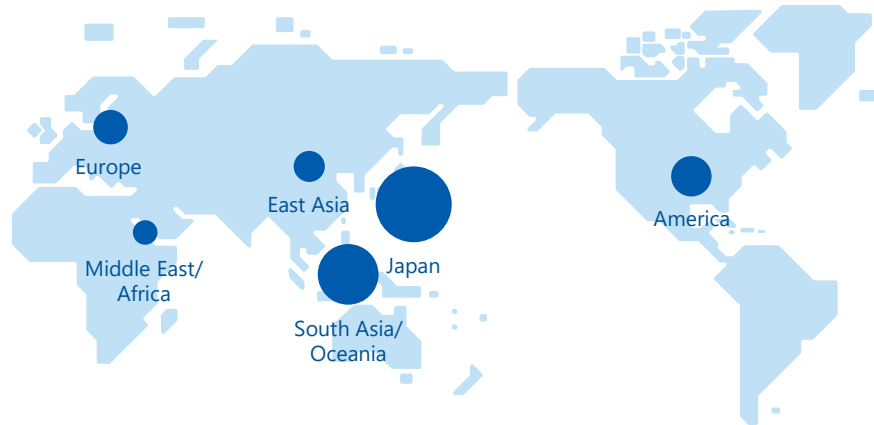
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About MOL

MOL was founded in 1884 in Tokyo, Japan. We offer a wide range of transport services, all based on safe and reliable operation.

Global presence (as of March 2025)

*The size of the circles indicates the scale of business in each region.



Number of MOL Group employees (as of March 2025)



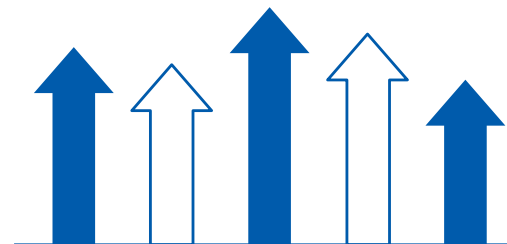
27
countries

Number of countries served by MOL-operated vessels [out of 145 sea-facing countries](as of March 2025)



More than 100

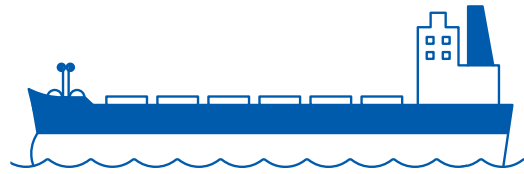
Consolidated ordinary profit (as of March 2025)



419.7
billion

MOL Business

MOL Fleet Scale (as of March 2025)



World's Second largest

935 vessels

Dry Bulk Business	Dry Bulkers	
Energy Business	Tankers	
	LNG Carriers	
	Offshore Business	

Product Transport Business	Car Carriers	
	Containerships	
Wellbeing Lifestyle Business	Real Property Business	
	Ferries and Coastal RoRo ships	
	Cruise Business	
Associated Businesses	Tugboats, Trading etc.	



MOL Group Corporate Mission

From the blue oceans,
we sustain people's lives and ensure a prosperous future.

MOL Group Vision

We will develop a variety of social infrastructure businesses in addition to traditional shipping businesses, and will meet the evolving social needs including environmental conservation, with innovative technology and services.

MOL group aims to be a strong and resilient corporate group that provides new value to all stakeholders and grows globally.



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Main Specifications



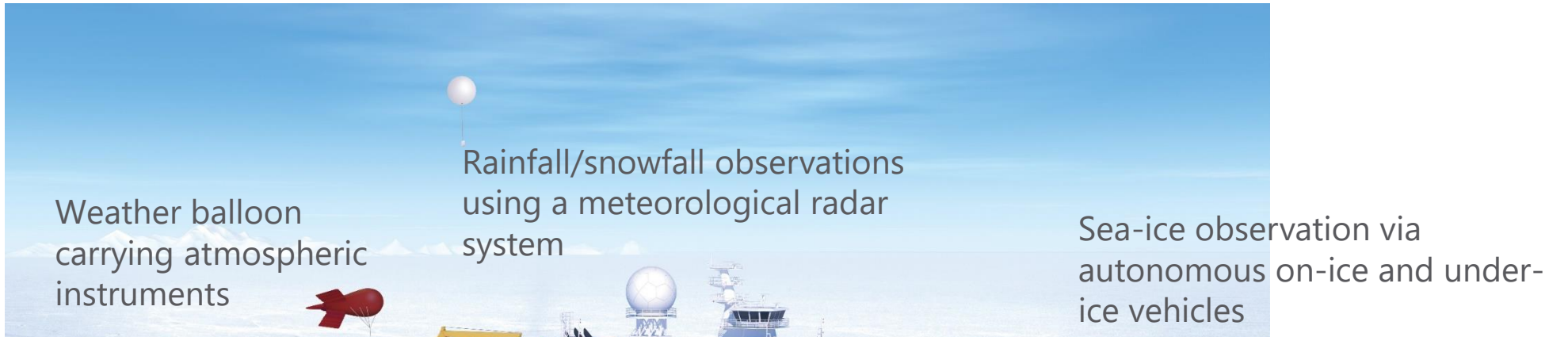
Length	128m
Beam	23m
Depth	12.5m
Draft	8.0m
Gross tonnage	13,000 tons
Ice-breaking capacity	capable of continuously breaking 1.2 m of flat, one-year ice at a speed of 3.0 knots
Polar class	PC4
Generator Diesel	Approx. 5,600kw×3 Approx. 2,600kw×1 (Dual fuel diesel)
Propulsion	Controllable pitch propeller
Accommodation	97

Shipowner: **Japan Agency for Marine-Earth Science and Technology (JAMSTEC)**

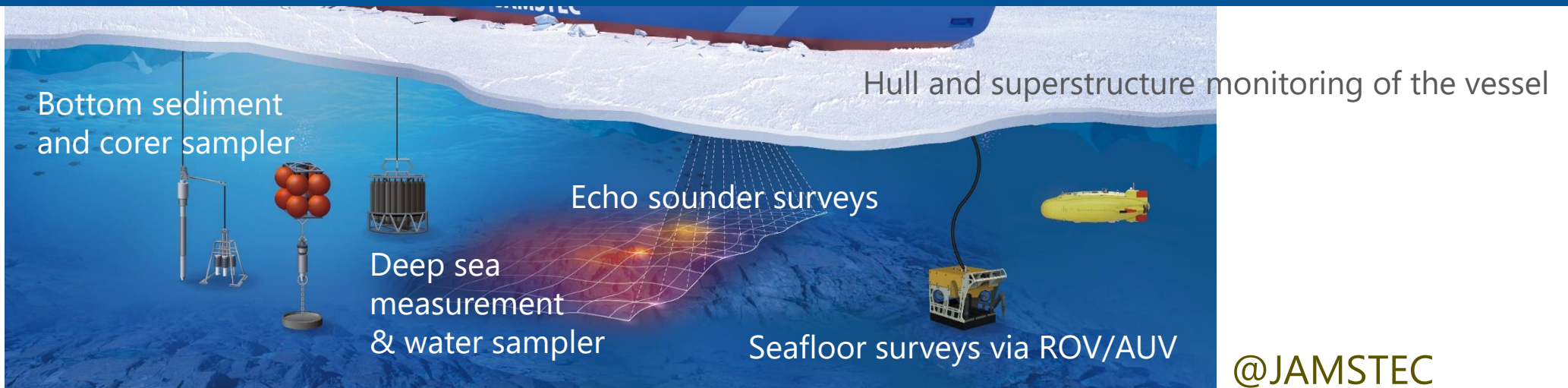
Ship Builder: **Japan Marine United Corporation (JMU)**

Construction Supervisor /Expected Operator: **Mitsui O.S.K. Lines, Ltd. (MOL)**

Preparation for research observation support/Expected research observation supporter:
Marine Works Japan Ltd. (MWJ)

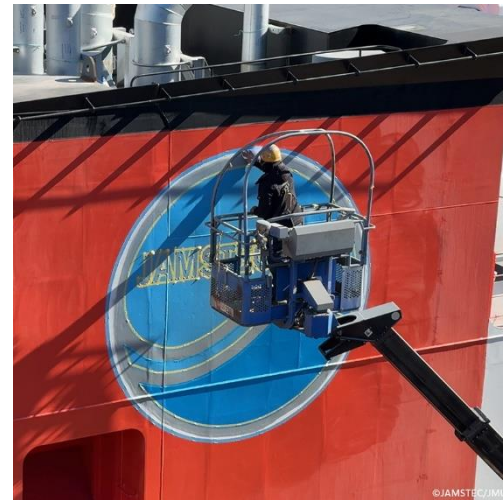
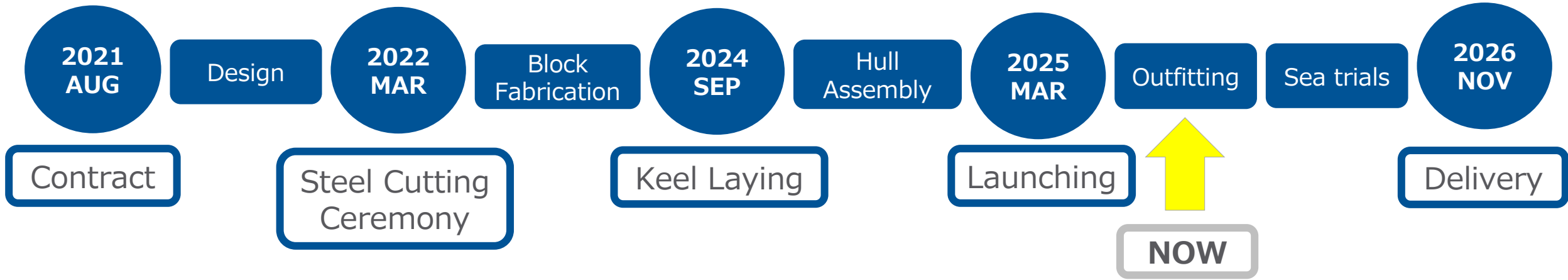


All-round observation and research functions in various sea areas including sea ice areas



Construction Schedule

Construction is currently underway for completion in 2026.



Operation Preparation

In preparation for the Mirai II's delivery in November 2026, MOL has considered about trainings for its crew members, PWOM and other operating policies with the cooperation of BAS, Laeisz, Polar Operation, CCG and Martech Polar.

Dispatch of captains and officers to research vessel

- Familiarization with offshore operations & Dynamic Positioning System
- To accumulate observation operation know-how



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Maneuvering training in polar observation scenarios

- Learning navigation techniques for various observation scenarios
- To enhance icebreaker navigation skills



Crew Training

Not only the mandatory training under the regulation, but various trainings for the polar observatory operation is also planned.

<Navigation>

- Ice Navigator Training certified by Nautical Institute
- Maneuvering Simulation Training by MIRAI II simulation model
- Maneuvering Simulation Training for the observation in ice



<Deck Work>

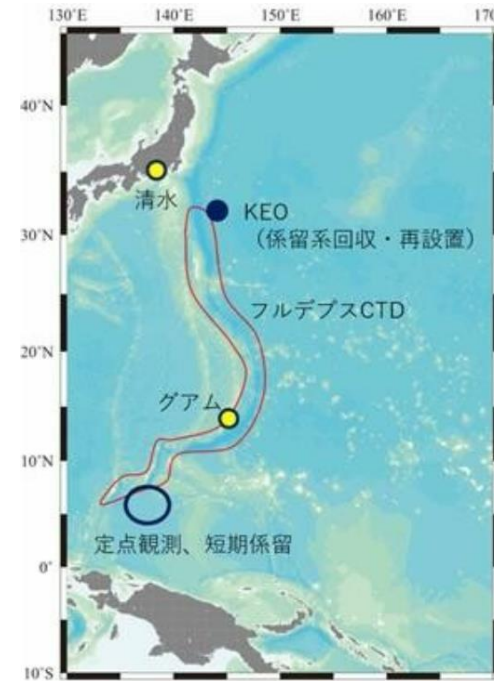
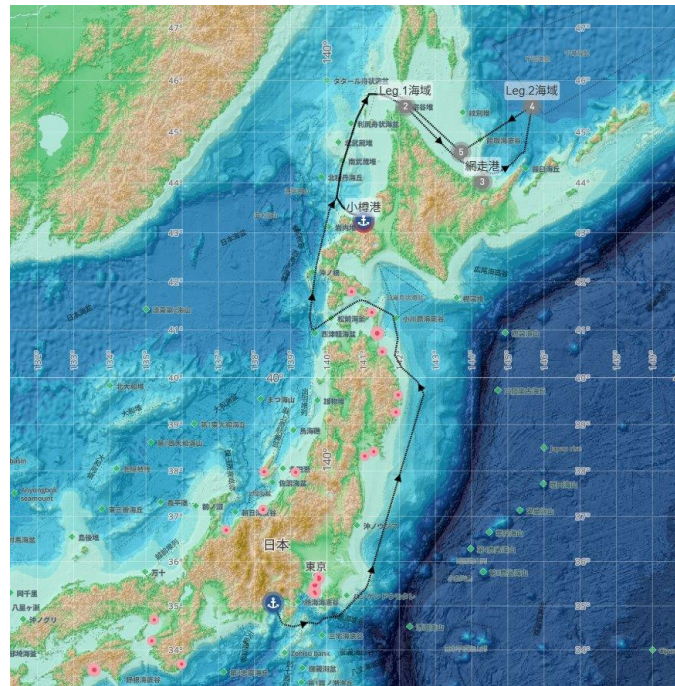
- Crane Slinging Training
- Ice Sea Survival Training
- Workboat Maneuvering Training
- (Helicopter Evacuation Training)

<Engine>

- DP Maintenance Training
- Retractive Thruster Maintenance Training
- Main Generator/Electric Propulsion Training (Include Dual Fuel)

Voyage after delivery

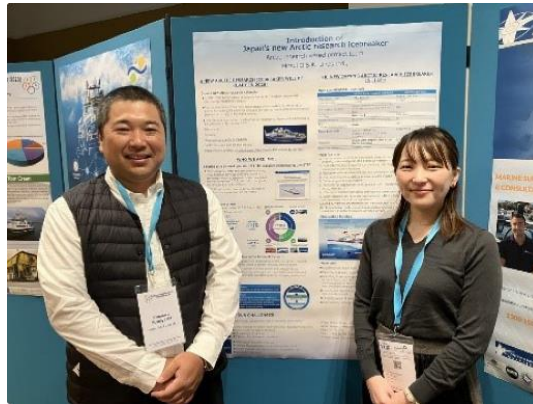
After the Mirai II's delivery in November 2026, JAMSTEC plans to conduct proficiency voyages. Candidate areas are waters around Japan (including the winter Sea of Okhotsk), the tropical Pacific, and the spring sea of Bering (and areas northwards) for ice trials. Details of the proficiency voyages have not been fixed yet, but will be announced as soon as they are determined.



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International Efforts

In order to operate MIRAI II as an international research platform, also to enhance our recognition within the research vessel and icebreaker network, we are committed to international research projects and fostering domestic and foreign early-career scientists.



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1st International Workshop on Arctic Ocean Observation, 2023



ASSW2024

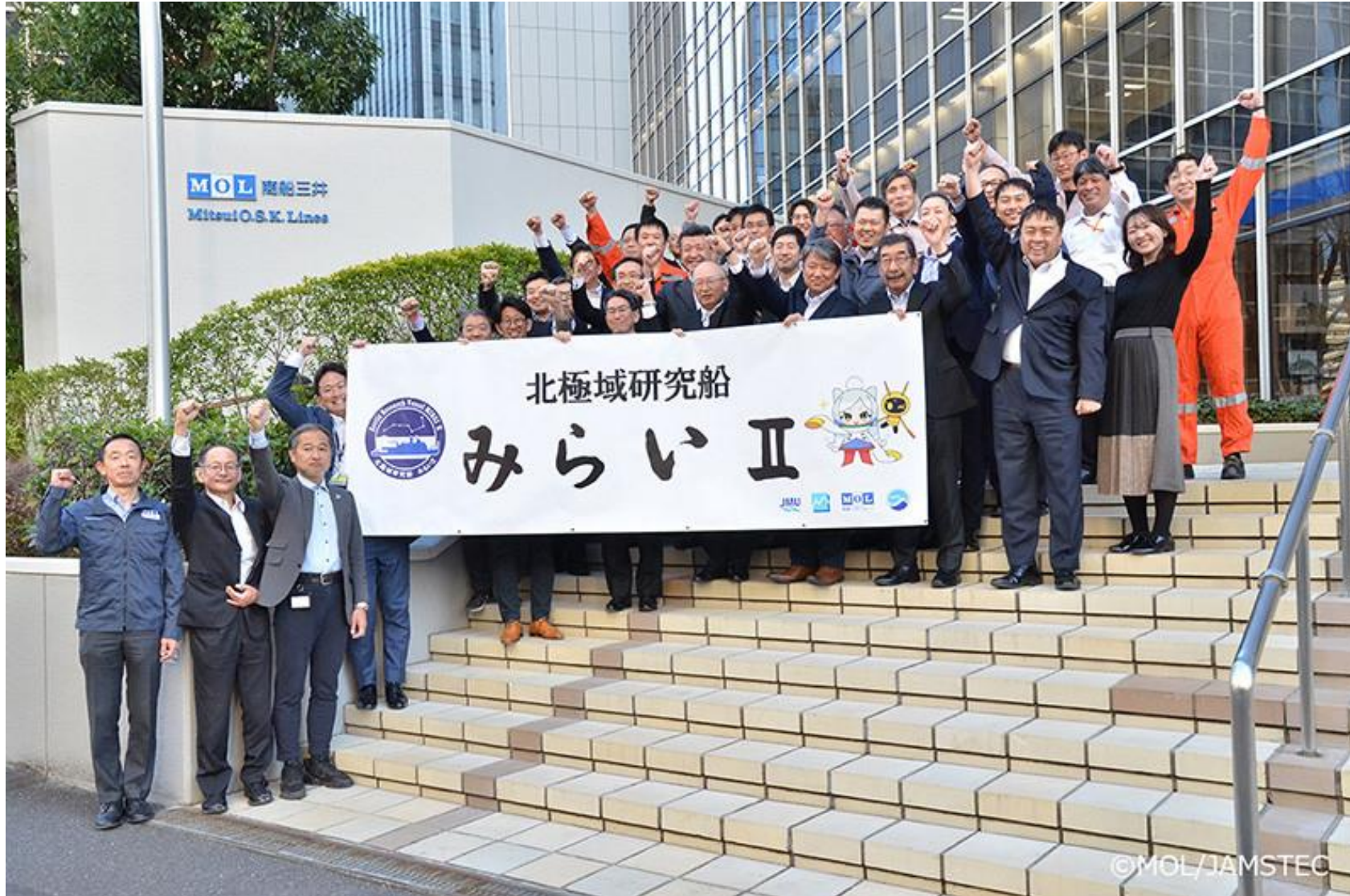


Maritime Arctic, 2024

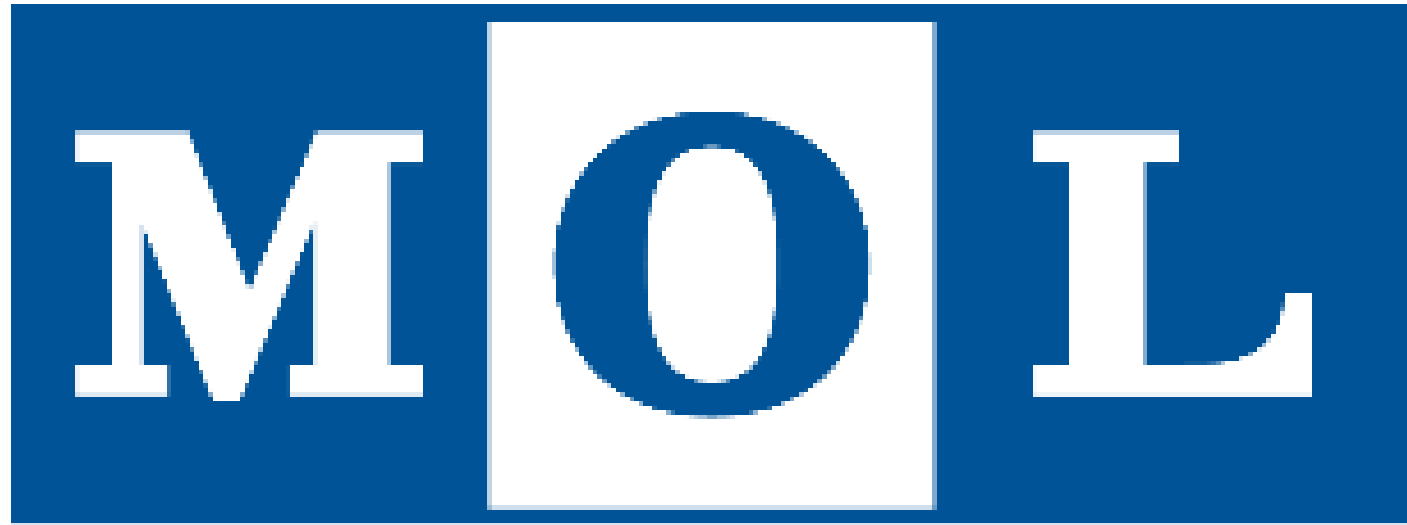


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Thank you for your kind attention!



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Mitsui O.S.K. Lines