



## Namura completes Dunkirkmax type bulk carrier, FIRST ETERNITY



Namura Shipbuilding Co., Ltd. delivered FIRST ETERNITY, a 182,067DWT bulk carrier, at its Imari Shipyard & Works on May 20, 2022. The vessel is the fourth of the newly-developed 182,000DWT type bulk carrier series.

The principal dimensions have been optimized to satisfy the restrictions of the Port of Dunkirk in France. Further improvement of propulsion performance and fuel saving can be achieved with adoption of the following energy saving devices: the Namura flow Control Fin (NCF), the Rudder-Fin developed by Namura, an electronically controlled main engine, the latest model of high efficiency propeller, and low friction type anti-fouling paint.

For environmental protection, the vessel is equipped with a main engine and generator engines compliant with the Annex VI of MARPOL 73/78 regulations to reduce NO<sub>x</sub> emissions, and an air seal type stern tube sealing device is adopted to reduce the risk of oil leakage. In addition, the vessel also complies with the SOLAS Chapter II-1 Regulation 3-12 Code on noise levels on board ships to improve the environment of the living quarters.

The ballast water treatment system to control the qual-

ity of ballast water is equipped for protection of the marine environment to comply with the International Convention for the Control and Management of Ships' Ballast Water and Sediments. In addition, the vessel has class notation IHM (Inventory of Hazardous Materials) for compliance with the ship recycle convention according to the Guidelines for the Inventory of Hazardous Materials.

The vessel has several storage tanks for appropriate management and discharge of drainage, sewage, rainwater and water used for cleaning cargo holds. This is to satisfy port restrictions on such discharges.

### Principal particulars

L (o.a.) x B (mld) x d (mld):	291.92m x 45.0m x 18.2m
DWT/GT:	182,067t/93,721
Main engine:MAN B&W 6G70ME-C9.5-EGRBP diesel x	
1 unit	
Complement:	25
Classification:	ClassNK
Registry:	Marshall Islands
Completion:	May 20, 2022



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## JAPAN SHIP EXPORTERS' ASSOCIATION

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## JMU completes 311,000DWT crude oil tanker, ENEOS ENDEAVOR

Japan Marine United Corporation (JMU) delivered the ENEOS ENDEAVOR, a 311,000DWT crude oil tanker at its Ariake Shipyard on June 17, 2022.

This is the fifteenth vessel of the newly developed eco-type Malaccamax VLCC series. Principal particulars have been optimized for transportation between Middle East and Japan, while satisfying the restrictions of domestic ports. Various and latest technologies developed through JMU's extensive experience in building tankers have been incorporated into the vessel.

High propulsion performance was achieved by the application of lower resistance and high efficiency hull form, and optimized energy saving devices such as the Super Stream

Duct®, SURF-BULB® and ALV-Fin®. In addition, good sea performance was achieved by application of the low wind resistance accommodation house and unique bow shape called the "LEADGE-BOW®". Fuel oil consumption was further improved by installation of a new electronically controlled marine diesel engine, low friction paint and large diameter propeller. In addition, this vessel is equipped with a SO<sub>x</sub> scrubber to comply with MARPOL ANNEX VI Regulation 14.



### Principal particulars

L (o.a.) x B x D x d:	339.5m x 60.00m x 28.50m x 21.085m
DWT/GT:	312,137t/160,725
Main engine:	WinGD W7X82 diesel x 1 unit
Speed, service:	15.5kt
Complement:	30
Classification:	ClassNK
Registry:	Panama

## Shin Kurushima Sanoyas completes Panamax bulk carrier, VASSOS

Shin Kurushima Sanoyas Shipbuilding Co., Ltd. delivered the Panamax bulk carrier, VASSOS, at the Shin Kurushima Sanoyas Mizushima Shipyard on May 12, 2022.

This is the 11th vessel of a series of the Sanoyas newly developed 82,000DWT type Panamax bulk carriers. The vessel applies the latest rules such as CSR B&T, NO<sub>x</sub> Tier III regulations, and SO<sub>x</sub> emission regulations, and has the equivalent level of deadweight with shallower draft than the previous Sanoyas design. The vessel exceeds the 30% reduction of CO<sub>2</sub> emissions (Phase 3) of the IMO's EEDI (Energy Efficiency De-

sign Index: grams CO<sub>2</sub> per ton nautical mile) regulation in advance that will apply to ships for which the building contract is placed on or after 2025.

For improvement of propulsion efficiency, the vessel is equipped with a low-speed & long-stroke electronically controlled main engine combined with a high-efficiency propeller and rudder appendages. Patented energy saving devices such as the Sanoyas developed STF (Sanoyas-Tandem-Fin) and ACE DUCT (Sanoyas Advanced flow Controlling and Energy saving DUCT) are applied. These energy saving devices which are improved over the previ-

ous designs achieve more than 8% reduction in energy consumption so that EEDI Phase 3 is definitely satisfied. Various eco-friendly features include countermeasures such as the main engine with SCR compliant with the NO<sub>x</sub> emission Tier III limit for prevention of air pollution, and dedicated low sulphur gas oil tank to cruise in any ECAs (Emission Control Areas). In addition, the Ballast Water Treatment System and independent holding tanks for rainwater on upper deck for the protection of marine environment are also incorporated.

For improvement of the vessel's maintenance, access trunks are arranged to allow access from the upper deck to double bottom even under the laden condition. Accommodation compliant with the latest IMO noise reduction regulation helps to improve the comfortable working and living environment for officers and crew in the vessel.

### Principal particulars

Hull No.:	1381
L (o.a.) x B x D x d:	229.00m x 32.24m x 20.15m x 14.594m
DWT/GT:	82,018t/43,429
Cargo hold capacity:	97,034m <sup>3</sup> (grain)
Classification:	ClassNK
Complement:	24
Speed, service:	about 14.2kt
Delivery:	May 12, 2022



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Various eco-friendly features include countermeasures such as the main engine



## Ship of the Year Award 2021

### Winner is KHI-built LH<sub>2</sub> carrier, SUIISO FRONTIER

The Ship of the Year Award 2021 given by the Japan Society of Naval Architects and Ocean Engineers (JASNAOE) had 11 candidate vessels to choose from this year, the 32nd year of the annual event. The Ship of the Year award are given to outstanding vessels or offshore structures built in the past year based on technical, artistic, and social considerations. The candidate announcement meeting and the selection meeting for the Ship of the Year Award 2021 were held on May 10 as an online conference due to the constraints of COVID-19.

The SUIISO FRONTIER built by Kawasaki Heavy Industries, Ltd. was the winner of the Ship of the Year Award 2021 as the world's first liquefied hydrogen (LH<sub>2</sub>) carrier in Japan. Other winners of individual sectors were the HYDROBINGO (Small passenger ship sector), the CENTURY HIGHWAY GREEN (Large cargo ship sector), the RYUTO (Small cargo ship sector), and the SHIOJI MARU (Fishing ship/research ship sector).

The prize award ceremony took place at the Kaiun Club on July 22, as a joint event organized by the three academic societies in the maritime science sector, the JASNAOE, Japan Institute of Marine Engineering (JIME), and Japan Institute of Navigation (JIN).

#### SUIISO FRONTIER

The winner of the Ship of the Year Award 2021 was the world's first large ocean-going LH<sub>2</sub> carrier, SUIISO FRONTIER, designed for long-distance transport. Hydrogen is now expected to be widely used as a next generation energy source as combustion emits no CO<sub>2</sub>. Kawasaki completed the ship by developing the cryogenic LH<sub>2</sub>-cargo tank and piping system based on its technological expertise of



vacuum-insulation piping system for constructing LH<sub>2</sub> processing and storing facilities on land. This ship design will enable stable and low-cost supply of hydrogen from overseas sources and stimulate wider use of hydrogen as a fuel in various fields, decreasing the supply costs of hydrogen.

#### Principal particulars

Ship name:	SUIISO FRONTIER
Ship type:	Liquefied hydrogen carrier
Ship owner:	CO <sub>2</sub> -free Hydrogen Energy Supply-chain Technology Research Association (HySTRA)
Shipbuilder:	Kawasaki Heavy Industries, Ltd.
Completion:	December 3, 2021 (Classification date)
Lpp x B x D - d:	109.0m x 19.0m x 10.6m - 4.5m
Gross tonnage:	7,849
Speed, service:	13.0kt
Main engine:	Electric propulsion x 2 units (1,360kW)
LH <sub>2</sub> cargo tank capacity:	1,253m <sup>3</sup>
Features:	Double-wall vacuum-insulation piping system, bow-thruster, Schilling rudder, and CPP

### Individual-sector winners from JSEA members

#### CENTURY HIGHWAY GREEN (Large cargo ship sector)

Kawasaki Kisen Kaisha, Ltd. has set the target of 50% improvement over the 40% reduction in CO<sub>2</sub> emissions specified by IMO in 2008. Consequently, the company has built the CENTURY HIGHWAY GREEN, a vehicle carrier, powered with Japan's

first high-pressure LNG-fueled main engine at its domestic shipyard. This carrier has the world's first remote-inspection adaptable system as a digital-flag ship using inboard-transmission infrastructures to anticipate future the requirements.

#### Principal particulars

Ship name:	CENTURY HIGHWAY GREEN
Ship type:	Automobile carrier
Shipowner:	FC Lead Leasing Ltd., Mahonia Leasing Co., Ltd.
Shipbuilder:	Tadotsu Shipyard Co., Ltd. of Imabari Shipbuilding Group
Completion:	March 12,

2021	
Lpp x B x D - d:	192.00m x 37.20m x 36.51m - 9.718m
Gross tonnage:	73,515
Speed, service:	18.0kt
Main engine:	MITSUI MAN B&W 8S50ME-C9.6-GI-EGRBP
Cargo:	Max. 7,080 units of automobiles (RT43)
Features: High-pressure LNG-fueled main engine, LNG-fueled diesel-generator/boiler, Optimal navigation-support equipment, Low-friction bottom paint, Preventive diagnostic system for auxiliary engines, Inboard Wi-Fi system, and Camera arrangement in the engine room and cargo holds.	



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## Posidonia 2022 opened successfully at Metropolitan Expo Centre

The Japan Ship Exporters' Association (JSEA) participated in the 27th International Shipping Exhibition, Posidonia 2022. The exhibition was successfully held with the sponsorship of the Posidonia Exhibitions SA at the Metropolitan Expo Centre in Greece during five days from Monday June 6 through Friday June 10. JSEA participated in the exhibition with the cooperation of the Shipbuilders' Association of Japan and support from The Nippon Foundation.

According to its organizer, 1,961 exhibitors from 88 countries were present at Posidonia 2022, which also attracted 27,892 visitors, breaking the previous high attendance registered in 2018.

For this exhibition, the JSEA provided the national exhibition stand in cooperation with the Nippon Kaiji Kyokai (ClassNK) and the Japan Ship Machinery and Equipment

Association (JSMEA).

### Seminar

On Tuesday June 7, from 13:00, JSEA held a seminar entitled "JAPAN SEMINAR at Posidonia 2022 - Challenges by Japan -" for Greek shipowners and related parties in the Seminar Room Central of the Metropolitan Expo Centre.

The seminar continued with major discussions about the measures required for advanced technological demands. Presenters included three companies exhibiting from JSEA, Nihon Shipyard Co., Ltd., Kawasaki Heavy Industries, Ltd., and Mitsubishi Shipbuilding Co., Ltd., and ClassNK as well as a video presented by The Nippon Foundation.

Live streaming of the seminar was also through YouTube via the JSEA Digital Platform.



View of the Japanese stand (left) and party of guests visiting the Japanese stand (right): From left are JSEA president Mr. Saito, Mr. Nakayama, Japanese ambassador to Greece, and Mr. Kyriakos Mitsotakis, Prime Minister of Greece.



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### SHIOJI MARU (Fishing ship / research ship sector)

The SHIOJI MARU is a training and research ship of the Tokyo University of Marine Science and Technology. As a moving campus and moving laboratory, the ship has facilities for both training and study in the areas of ship operation and the marine environment for trainees hoping to become ship officers, students, and related personnel. Moreover, the ship is provided with facilities for training and study for marine development together with disaster-support functions. Therefore, the vessel is expected to increase the training and study resources related to shipping and the marine environment in Japan.

### Principal particulars

Ship name: SHIOJI MARU  
 Ship type: Training and research ship  
 Shipowner: Tokyo University of Marine Science and Technology  
 Shipbuilder: Japan Marine United Corporation  
 Completion: October 13, 2021  
 Lpp x B x D - d: 54.0m x 11.1m x 6.5m - 3.5m  
 Gross tonnage: 775  
 Speed, cruising: 12kt  
 Main engine: IHI prime-mover Model 6MG26HLX; 1,250kW x 720 min<sup>-1</sup> x 1 unit

Complement: 70 (8 officers; 11 staff members; 7 instructors, and 44 students)

Features: Sonar dome for underwater and sea-bottom investigation as well as various devices for ocean and marine biology research.





## Three Japanese firms start joint development of Net Zero Emission Ammonia-fueled Ocean-going LGC

Mitsui O.S.K. Lines, Ltd. (MOL), Mitsui E&S Shipbuilding Co., Ltd. (MES-S), and Tsuneishi Shipbuilding Co., Ltd. (Tsuneishi) announced the launch of a joint project aimed at developing and building an ocean-going liquefied gas carrier (LGC) that will use ammonia as its main fuel.

The vessel is envisioned as a mid-size ammonia/LPG carrier equipped with a main engine that can run mainly on ammonia, and targeting to achieve net zero carbon dioxide (CO<sub>2</sub>) emissions while underway by using some of its ammonia cargo as fuel. This ship type is similar to the ammonia carriers used for international maritime ammonia transportation, so the vessel can call at major ammonia and LPG shipping and receiving ports around the world, allowing use on a broad range of routes.

The three companies continue to move toward the joint development

and design of the ship, and plan delivery and introduction of the vessel around 2026 as the first “net zero emission ocean-going vessel,” as stated in “MOL Group Environmental Vision 2.1.”

In line with trends toward decarbonization, worldwide interest in ammonia fuel, which emits no CO<sub>2</sub> during combustion, is growing as a next-generation clean energy source. Therefore, the move to strategically use ammonia as fuel has been accelerating in the maritime industry as well.

The three companies will offer clean ocean transport solutions with net zero emission vessels and participate in comprehensive efforts to real-



ize a decarbonized society, while anticipating and responding to rising demand for ocean transport of ammonia.

### Outline of the vessel

L (o.a.):	About 180m
Breadth:	About 30m
Depth:	About 19m
Cargo tank capacity:	About 40,000m <sup>3</sup>
Main engine:	MITSUI-MAN B&W type S60 two-stroke dual-fuel ammonia engine (under development)

## Naikai Zosen completes passenger/car ferry, REIMEI MARU

Naikai Zosen Corporation completed construction of the REIMEI MARU, a 2,710GT passenger/car ferry at the Setoda Shipyard for the co-owner, Japan Railway Construction, Transport and Technology Agency (JRJT) and Uwajima Unyu Co., Ltd. on June 17, 2022.

This passenger/car ferry is powered by twin engines and twin propellers. Cars can drive onto the car decks through the ramp gates provided at the bow and stern and inboard ramps. For passengers, an elevator is installed at the starboard side to allow

aged and disabled passengers to move between car decks and the first promenade deck.

The ship's hull is designed with the bulbous bow and catamaran type stern for increased propulsive and sea-keeping performances. Rolling motion during navigation is suppressed with fin stabilizers attached to the amidships hull.

Ship maneuverability at the time of entering and leaving a port is increased with two bow thrusters and controllable pitch propellers, and two Schilling rudders with maximum rudder angle of 70

degrees allow ship maneuvering at very low speed. The ferry is equipped with energy-saving devices such as the “eco-cap,” two Schilling rudders

with energy-saving fins, and stern fins, which have improved propulsion efficiency.

### Principal particulars

Owner:	JRJT and Uwajima Unyu Co., Ltd.
Builder:	Naikai Zosen Corporation
Ship type:	Passenger/car ferry
L (o.a.) x B x D x d (ext.):	121.41m x 16.00m x 10.60m x 4.45m
GT:	2,718
Main engine:	Daihatsu 6DKM-36e diesel x 2 units
MCO:	3,310kW x 600/215min <sup>-1</sup> x 2
Loading capacity	
Passengers:	586 (Within less 6hr navigation)
Automobiles:	28 units
8-tonner trucks:	38
Complement:	14
Speed, service:	20.2kt
Classification:	JG (Limited to coasting)
Registry:	Japan
Completion:	June 17, 2022



**YM TRANQUILITY**

Builder: Imabari Shipbuilding Co., Ltd.

Ship type: 11,000TEU type container carrier

L(o.a.) x B x D: 333.95m x 48.40m x 26.88m

DWT/GT: 136,899t/118,524

Main engine: 9S90ME-C10.5 diesel x 1 unit

Speed, service: 23.0kt

Classification: LR

Completion: June 22, 2022

**NORD AQUARIUS**

Builder: Japan Marine United Corporation

Ship type: 82,400DWT type bulk carrier

L (o.a.) x B (mld.) x D (mld.) x d (mld.): 229.00m x 32.26m x 20.20m x 14.55m

DWT/GT: 82,375t/44,618

Main engine: MAN-B&W 6S60ME-C8.5-EGRBP diesel x 1 unit

Speed: 14.50kt

Complement: 25

Classification: ClassNK

**DARYA RAPTI**

Builder: The Hakodate Dock Co., Ltd.  
Hull No.: 910

Ship type: 40,000DWT type log/bulk carrier

L (o.a.) x B (mld.) x D (mld.) x d (mld.): about 182.90m x 31.60m x 14.80m x 10.37m

DWT/GT: 40,058t/24,472

Main engine: MAN B&W 6S46ME-B8.5-HPSCR diesel x 1 unit

Speed, service: about 14.0kt

Classification: ClassNK

Registry: Marshall Islands

Completion: May 27, 2022

**TAI STRIDE**

Owner: Tai Shing Maritime Co., S.A.  
Builder: Oshima Shipbuilding Co., Ltd.

Hull No.: 11005

Ship type: Bulk carrier

L (o.a.) x B x D x d (ext.): 199.95m x 32.26m x 19.28m x 13.542m

DWT/GT: 64,539t/36,173

Main engine: Mitsui-MAN B&W 6S50ME-C9.6-EGRBP diesel x 1 unit

Speed, service: 14.50kt

Classification: BV/CR

Registry: Liberia

Completion: May 17, 2022

**REGINA ISLAND**

Builder: Shin Kurushima Toyohashi Shipbuilding Co., Ltd.

Hull No.: S-6127/S-3747

Ship type: Open hatch bulk carrier

L (b.p.) x B x D : 179.95m x 31.0m x 14.7m

DWT/GT: 39,940t/25,012

Main engine: Mitsui 6S46ME-B8.5-HPSCR diesel x 1 unit

Speed, service: 14.0kt

Classification: ClassNK

Registry: Panama

Completion: April 27, 2022

**Information from JSEA**

Our news letter, SEA-Japan, is now available as e-mail. If anyone wishes to receive the digital edition (pdf format), please contact [sea-japan@jsea.or.jp](mailto:sea-japan@jsea.or.jp) with the following information for identification:

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