

## JMU delivers world's largest class self-propelling JUV, BLUE WIND



Japan Marine United Corporation (JMU) delivered the BLUE WIND, a Jack-Up Vessel (JUV), to Shimizu Corporation, a general contractor in Japan, at the Kure Shipyard on January 31, 2023. The BLUE WIND is one of the world's largest class JUV equipped with a crane of maximum 2,500-ton lifting capacity. The BLUE WIND is the second delivery from JMU, being the sole builder of JUV in Japan, which is indispensable for the installation of

wind power generation systems.

Policies to promote decarbonization have become increasingly active to achieve carbon neutrality by 2050. Under such circumstances, electricity generation from offshore wind is now widely recognized as rapidly maturing renewable energy technology, which could lead to a surge of clean energy deployment. Fixed-bottom-type offshore wind turbines are located offshore and assembled on fixed foundations in shallow waters. JUVs allow safe and effective installation of heavy foundations and components of such wind turbines.

The JUV has four legs penetrated into sea bed during operation. The vessel is jacked up using hydraulic pressure or rack-and-pinion gears to insulate the vessel from the ocean surface, which enables JUV to provide great reliability and safety in the installation work of wind turbines and offshore foundations without effects of tidal currents and waves even in the harshest offshore conditions.

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## World's largest class self-propelling JUV, BLUE WIND

Movement toward the expansion of offshore wind power generation has been started to advance in earnest in Japan under the Japanese government's 2050 Carbon Neutrality Declaration. Also, many large-scale offshore wind farm construction projects have been initiated in Europe, the United States and the Asia. For such world-wide situations, there is a high demand for large-capacity JUVs. The BLUE WIND is no exception and she is expected to deliver outstanding performance in response to such high demand.

### Features

The basic design of the BLUE WIND was carried out by GustoMSC, an offshore engineering company in the Netherlands. JMU is in charge of the detailed design and construction of the vessel. The vessel is equipped with the dynamic positioning system (DPS) to maintain the vessel position automatically.

The jacking-up legs are 92 meters long, and the vessel is applicable to water depths of up to 45 meters. The world's largest class 2,500-ton crane has a telescopic boom that is extensible up to 158 meters, which allows installation of a 15 mega-watt class wind turbine.

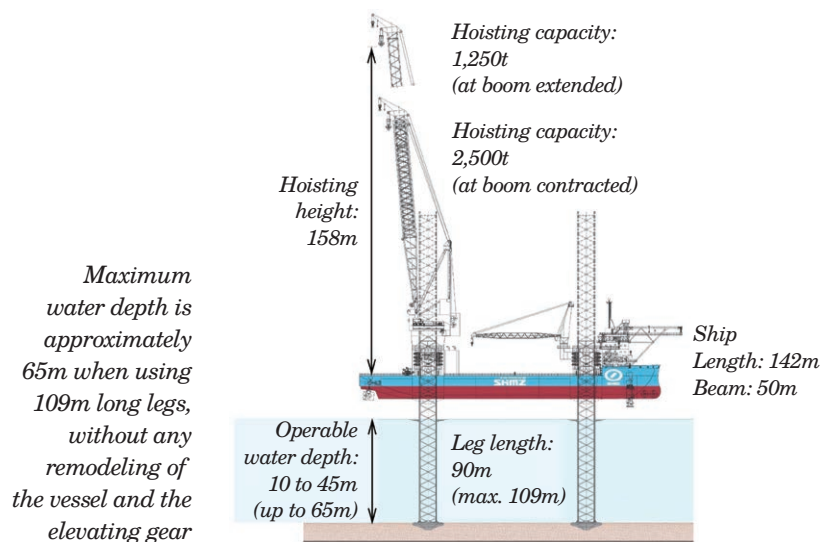
The living quarters of the BLUE WIND can accommodate 130 people and are provided with a recreation room and theater for more comfortable long-term offshore life.

JMU says that the company will contribute to conservation of the global environment by supporting carbon neutrality in the year 2050. JMU's experience in ship-building and offshore structures will help to construct JUVs as well as pursuing the business related to offshore floating wind power generation.



### Outline of the BLUE WIND

Dimensions: 142m long x 50.0m wide x 11.0m deep	Tunnel thrusters: 3,200kW x 2 units
Gross tonnage: 23,539	Power generators: 4,630kW x 4 units 1,425kW x 2 units
Speed, navigational: 11 knots	Jacking-up system: Rack-and-pinion (electric power drive type)
Complement: 130	Legs: 92m long x 4 legs
Classification: ClassNK	Main crane: Telescopic/slewing-type crane
Registry: Tokyo, Japan	Max. hoisting capacity: 2,500t (boom contracted) 1,250t (boom extended)
Propulsion system	
Azimuth thrusters: 3,800kW x 3 units	
Elevating-type azimuth thruster: 3,200kW x 1 unit	



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## Mitsui and MOL acquire AiP for large ammonia-powered bulk carrier

Mitsui & Co., Ltd. (Mitsui) and Mitsui O.S.K. Lines, Ltd. (MOL) have received Approval in Principle (AiP) from the Nippon Kaiji Kyokai (ClassNK) for the design of a large ammonia-powered bulk carrier.

Mitsui and MOL jointly determined the size and specifications of the vessel, and the companies entrusted Mitsubishi Shipbuilding Co., Ltd. with the design of the vessel. The AiP covers a 210,000DWT Cape size bulker, a highly versatile class of ship. The design calls for a main engine fueled by ammonia, which emits no CO<sub>2</sub> when burned, so achieving zero CO<sub>2</sub> emissions during the voyage. The vessel will also feature two ammonia fuel tanks on the upper deck to maximize the cruising range for various routes and to make the most effective use of cargo space.

Furthermore, a HAZID risk assess-

ment has been conducted by ClassNK to confirm that no unacceptable risks exist at the basic design stage and to identify items to be considered in the detailed design, which will incorporate safety measures fully taking into account the toxicity of ammonia, and other factors. The HAZID (Hazard Identification Study) system is a risk assessment and management method in which experts discuss the magnitude and frequency of potential system hazards to ensure that the system as a whole is sufficiently safe.

Global interest in ammonia as a



*An image of large ammonia-powered bulker*

next-generation clean energy source is growing, and the maritime industry is accelerating its efforts to encourage strategic use as a fuel. As expectations for ammonia as a marine fuel increase, Mitsui and MOL will promote the expansion of net-zero emission ocean-going vessels to support society's overall efforts to achieve decarbonization.

## Namura completes Dunkirkmax-type bulk carrier, GINA OLDENDORFF

Namura Shipbuilding Co., Ltd. delivered the GINA OLDENDORFF, a 182,126DWT bulk carrier, at its Imari Shipyard & Works on February 10, 2023. The vessel is the tenth of a series of newly-developed 182,000DWT-type bulk carrier with excellent features.

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 by adoption of two energy

saving devices, the Namura flow Control Fin (NCF) and 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 Annex VI of the MARPOL 73/78 regulations to reduce NO<sub>x</sub> emissions, and an air-seal-type stern tube sealing device 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 onboard ships to improve the environment of the living quarters.

The ballast water treatment

system to control the quality of ballast water is equipped to protect the marine environment to comply with the International Convention for the Control and Management of Ships' Ballast Water and Sediments. The vessel has class notation IHM (Inventory of Hazardous Materials) for compliance with the ship recycling 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 to satisfy port restrictions on such discharges.

### Principal particulars

L (o.a.) x B (mld.) x d (mld.): 291.92m x 45.00m x 18.20m

DWT/GT: 182,126t/93,718

Main engine: MAN B&W 6G70ME-C9.5-EGRBP diesel x 1 unit

Complement: 23

Classification: ClassNK

Registry: Liberia

Completion: February 10, 2023



## Kawasaki delivers LPG-fueled LPG carrier, LANTANA PLANET

Kawasaki Heavy Industries, Ltd. has delivered the 84,000m<sup>3</sup> capacity LPG carrier, LANTANA PLANET (Hull No. 1754), to Nippon Yusen Kabushiki Kaisha. This is the 69th LPG carrier built by the company. This vessel is a dual-fuel LPG carrier using LPG and low-sulfur fuel oil, and their fourth 84,000m<sup>3</sup> LPG carrier adopting a dual-fuel main engine.

More vessels are recently adopting liquefied gases as an alternative to heavy fuel oil for GHG reduction on a global scale. This very large LPG carrier is powered by LPG, which reduces GHG emissions and is expected to significantly reduce environmental impact. It is the fruit of the Kawasaki Group's accumulated knowledge in building LPG and LNG carriers, and LNG-fueled vessels.

Kawasaki plans to develop and build more LPG-fueled LPG carriers, LPG/NH<sub>3</sub> carrier, and other commercial vessels that meet environmental standards, as well as to develop and offer other eco-friendly marine technologies, to contribute to the establishment of a low-carbon/decarbonized society. These products include vessels for transporting liquefied hydro-

gen, considered to be the next-generation energy source.

This LPG carrier operates using both LPG and low-sulfur fuel oil. Use of LPG as fuel greatly reduces emission volumes of sulfur oxides (SO<sub>x</sub>), CO<sub>2</sub>, and other pollutants compared with use of marine fuel oil. In this way, the new vessel will meet SO<sub>x</sub> emission standards which were strengthened in January 2020, and EEDI Phase 3 regulations which will further strengthen CO<sub>2</sub> emission standards.

To satisfy restrictions on IMO NO<sub>x</sub> Tier III controls emissions, the main engine and generator are equipped with a selective catalytic reduction (SCR) system, an exhaust gas purification system to reduce NO<sub>x</sub>, which allows the ship to navigate in Emission Control Areas (ECAs).

Installation of LPG fuel tanks on the ship's upper deck makes it possible to load fuel-use LPG separate from the ship's cargo LPG. Moreover, a piping system connecting the LPG fuel tanks and LPG cargo tanks en-



ables transferring of extra LPG to the LPG fuel tanks if necessary.

This vessel adopts the Kawasaki rudder bulb system with fins (RBSF) and the semi-duct system with contra-fins (SDS-F) which contribute to reducing fuel consumption.

### Principal particulars

L (o.a.) x B (mld.) x D (mld.) x d (mld.):	229.90m x 37.20m x 21.90m x 11.60m
DWT/GT:	55,153t/49,943
Cargo tank capacity:	84,169m <sup>3</sup>
Main engine:	Kawasaki-MAN B&W 7S60ME-C10.5-LGIP diesel x 1 unit
Speed:	Approx. 17.0kt
Complement:	30
Classification:	ClassNK
Registry:	Panama
Delivery:	January 23, 2023

## Mitsubishi and INPEX complete concept study for NH<sub>3</sub> bunkering vessel

Mitsubishi Shipbuilding Co., Ltd., a Mitsubishi Heavy Industries (MHI) Group company based in Yokohama, has recently completed a concept study for an ammonia bunkering vessel capable of supplying ammonia fuel to ships. This study involved joint investigations with INPEX CORPORATION, which has many achievements and much experience in the energy supply chain, to respond to increasing demands for ammonia-fueled

ships.

Ammonia does not emit carbon dioxide (CO<sub>2</sub>) when burned, so is a potential stable source of clean energy in the future, and use as a fuel may greatly contribute to the reduction of greenhouse gas emissions in the maritime industry. Mitsubishi Shipbuilding leveraged its extensive knowledge of the design and production of multi-purpose liquefied gas carriers, which are also capable of transporting ammonia, for furthering the concept of a highly flexible ammonia bunkering vessel with adequate tank capacity, ship maneuverability, and bunkering equipment for compatibility with the various ammonia-fueled vessels expected to require service.

Based on the knowledge and technical expertise acquired in this study,

Mitsubishi Shipbuilding will carry out further technical investigations, and with the cooperation of the maritime-related companies involved and others, will explore the commercialization of this vessel. Moreover, to anticipate customer needs in the whole value chain, Mitsubishi Shipbuilding will continue to develop various types of ships.

Mitsubishi Shipbuilding is an integral part of MHI Group's Energy Transition strategy. As a maritime system integrator, Mitsubishi Shipbuilding will continue to focus on developing and commercializing ammonia bunkering vessels, other alternative fuel vessels, and associated equipment for the future carbon neutral society.



Image of ammonia bunkering vessel



## Shin Kurushima Sanoyas delivers Ultramax bulker, NEVER ON SUNDAY

Shin Kurushima Sanoyas Shipbuilding Co., Ltd. completed construction of the Ultramax bulk carrier, NEVER ON SUNDAY, built at Shin Kurushima Sanoyas Mizushima Shipyard and delivered on February 22, 2023.

This is the 5th vessel of a series of the Sanoyas newly developed 64,000DWT-type Ultramax bulk carriers, and the large deadweight is achieved with length less than 200m. The vessel applies the latest rules such as CSR B&T, NO<sub>x</sub> Tier III regulations, and exceeds 30% reduction of CO<sub>2</sub> emissions (Phase 3) required by the IMO EEDI (Energy Efficiency Design Index: grams CO<sub>2</sub> per ton nautical mile) regulation in advance that will apply to ships with building contracts placed on or after 2025.

The vessel is equipped with a low-speed & long-stroke electronically controlled main engine combined with a high-efficiency propeller and rudder appendages for increased propulsion efficiency. Furthermore, patented energy saving devices such as the Sanoyas developed "STF" (Sanoyas-Tan-

dem-Fin) and ACE DUCT (Sanoyas Advanced flow Controlling and Energy saving DUCT) are applied. These energy saving devices improved over the previous design have achieved over 8% reduction of energy consumption so that EEDI Phase 3 is definitely satisfied.

Eco-friendly features include various countermeasures such as the main engine with EGR compliant with NO<sub>x</sub> emission Tier III limit for the prevention of air pollution, and dedicated low sulphur gas oil tank to cruise in ECAs (Emission Control Areas). In addition, the Ballast Water Treatment System and independent holding tanks for rainwater on the upper deck are also incorporated for protection of the marine environment.

The vessel has five cargo holds with hatch openings maximized to load



various cargoes such as grain, ore, coal, hot coils, and steel pipes. Four 31t deck cranes for handling cargo are installed.

### Principal particulars

Ship type:	Bulk carrier
Hull No.:	1387
L (o.a.) x B (mld.) x D (mld.) x d (ext.):	199.99m x 32.24m x 19.22m x 13.52m
DWT/GT:	63,986t/36,298
Cargo hold capacity:	81,490m <sup>3</sup> (grain)
Complement:	24
Speed, service:	about 14.1kt (at C.S.O. with 15% sea margin)
Classification:	ClassNK
Delivery:	February 22, 2023

## JSEA participates in NOR-SHIPPING 2023

The 29th NOR-SHIPPING 2023 (The 29th International Shipping Exhibition) will take place at the NOVA Spektrum in Lillestrom for four days from June 6 through June 9. This event is organized by the NOVA Spektrum and is sponsored by the Norwegian Shipowners' Association and organizations related to the maritime industry.

The Japan Ship Exporters' Association (JSEA), consisting of 10 Japa-

nese shipbuilders, will participate in the exhibition with the financial support of The Nippon Foundation and in cooperation with The Shipbuilders' Association of Japan. JSEA will occupy a 220m<sup>2</sup> exhibition area to showcase Japanese shipbuilding technology. Specific ship hull forms, newly developed ship designs, and other developments will be demonstrated with 46-inch monitors, photographs, and other presentations. A large multi-

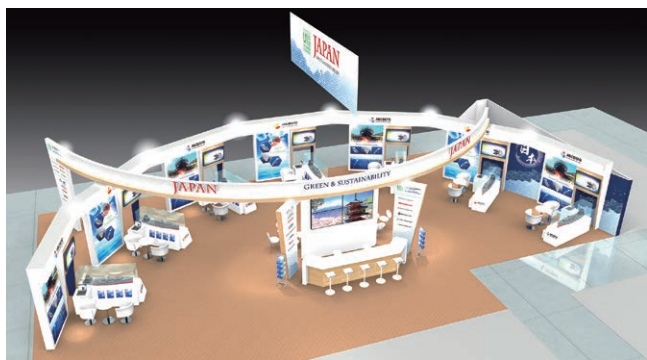
screen monitor system will be installed as a backdrop to the reception counter.

In addition, JSEA is now planning to hold the Japan Seminar with the following schedule:

Wednesday afternoon, June 7 at the Meeting Room in the Thon Hotel Arena. Furthermore, JSEA is now building the "JSEA Digital Platform" associated with the exhibition, which will be presented in a virtual space in coordination with the actual exhibition. Please refer to the bottom of page 6 of this publication.

### JSEA consists of the following shipbuilders:

Imabari Shipbuilding Co., Ltd.  
Japan Marine United Corporation  
Kawasaki Heavy Industries, Ltd.  
Mitsubishi Shipbuilding Co., Ltd.  
Namura Shipbuilding Co., Ltd.  
Nihon Shipyard Co., Ltd.  
Oshima Shipbuilding Co., Ltd.  
Shin Kurushima Dockyard Co., Ltd.  
Shin Kurushima Sanoyas Shipbuilding Co., Ltd.  
Sumitomo Heavy Industries Marine & Engineering Co., Ltd.



**GLORIOUS ROSE**

Builder: Imabari Shipbuilding Co.,Ltd./Iwagi Zosen Co.,Ltd.  
 Ship type: 3,600,000 C.F. type chip carrier  
 L (o.a.) x B x D: 199.96m x 32.24m x 20.20m  
 DWT/GT: 49,513t/41,273  
 Main engine: 6UEC50LSH diesel x 1 unit  
 Speed, service: 14.35kt  
 Classification: ClassNK  
 Completion: December 12, 2022

**CLIMATE ETHICS**

Owner: Gloverthree Shipping Corporation  
 Builder: Oshima Shipbuilding Co., Ltd.  
 Hull No.: 11042  
 Ship type: Bulk carrier  
 L (o.a.) x B x D x d (ext.): 228.41m x 36.50m x 20.39m x 14.348m  
 DWT/GT: 87,285t/48,233  
 Main engine: Mitsui-MAN B&W 5S60ME-C10.5-EGRBP diesel x 1 unit  
 Speed, service: 14.30kt  
 Classification: DNV  
 Registry: Cyprus  
 Completion: January 20, 2023

**CAPE DIVERSITY**

Builder: Japan Marine United Corporation  
 Hull No.: 5192  
 Ship type: 182,000DWT bulk carrier  
 L (o.a.) x B x D x d: 292.00m x 45.00m x 24.55m x 18.234m  
 DWT/GT: 182,236t/93,660  
 Main engine: MAN B&W 7S65ME-C8.5 diesel x 1 unit  
 Speed, service: 15.05kt  
 Complement: 25  
 Classification: ClassNK  
 Registry: Panama  
 Completion: February 17, 2023

**FJ DALIA**

Owner: F.J. Lines Inc.  
 Builder: Shin Kurushima Dockyard Co., Ltd.  
 Hull No.: S6173  
 Ship type: Bulk carriers  
 L (b.p.) x B x D: 196.5m x 32.26m x 19.4m  
 DWT/GT: 64,273t/36,762  
 Main engine: Mitsui MAN B&W 6S-50ME-C9.6-EGRBP diesel x 1 unit  
 Speed, service: 13.9kt  
 Classification: ClassNK  
 Registry: Marshall Islands  
 Completion: March 16, 2023



**Notice:**  
**JSEA Digital Platform**

The Japan Ship Exporters' Association has developed the JSEA Digital Platform (JDP) for exhibitions with a virtual space to supplement local exhibitions such as Posidonia and NOR-SHIPPING. We have so far participated in these exhibitions and recently held a hybrid exhibition with JSEA Digital Platform (JDP). We are now intending to apply the hybrid approach for the next exhibition, NOR-SHIPPING 2023 (June 6th to 9th, 2023) in Oslo, together with JSEA Digital Platform (JDP). For more information, please access the QR code below.



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 from JSEA**

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