SEA-Japan

No. 384 Aug. - Sept. 2017

NAMURA completes 250,000 DWT type ore carrier, CAPE HAYATOMO

Namura Shipbuilding Co., Ltd. delivered the CAPE HAYATOMO, a 250,460DWT ore carrier, to NSC0410 Shipping S.A. at its Imari Shipyard & Works on May 11, 2017. This is the first vessel of the second generation of the WOZMAX® (Western Australia [Aussie: OZ] Max) series, which is optimized for the three major loading ports of iron ore in Western Australia, Port Hedland, Port Walcott and Dampier. The mooring arrangement also satisfies the requirement of Ponta Da Madeira in Brazil. The vessel achieves over 250,000 deadweight tons with shallow draught of 18 meters, and improves efficiency for cargo loading and unloading compared with the first generation with adaption of seven holds and seven hatches.

The straight bow shape can reduce wave resistance at service speed condition and improve propulsion performance in actual sea conditions. Further improvement of propulsion performance and fuel saving can be achieved with adoption of two energy saving devices, the Namura flow Control Fin (NCF) and Rudder-Fin both developed by Namura, an electronically controlled main engine, a high efficiency propeller, and low friction type anti-fouling paint.

The vessel complies with the latest requirements of the international rules and regulations, such as IMO PSPC-WBT for corrosion protection of water ballast tanks to increase safety of the vessel. For environmental protection, the vessel is equipped with a main engine and generator engine compliant with the Annex VI of MARPOL 73/78 regulations to reduce NO_x emissions. An air seal type stern tube sealing device is adopted to reduce the risk of oil leakage, and low sulfur fuel oil tank is provided to satisfy the restrictions on SO_x emissions.

A grey water holding tank is arranged in the engine room double bottom to collect grey water in port.

The ballast water treatment system to control the quality of ballast water is equipped for protection of the marine environment prior to coming into force of the International Convention for the Control and Management of Ships' Ballast Water and Sediments. The centralized fresh water cooling system adopted for the machinery space equipment contributes to easy maintenance.

Principal particulars

L (o.a.) x B (mld.) x D (mld.) x d (mld.): 329.95m x 57.00m x 25.60m x 18.00m
DWT/GT: 250,460t/135,933
Main engine: MAN B&W 6G80ME-C9.5 diesel x 1 unit
Complement: 28
Registry: Panama
Classification: NK

For further information please contact:
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JAPAN SHIP EXPORTERS' ASSOCIATION
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Ship of the Year Award 2016 goes to car carrier DRIVE GREEN HIGHWAY

The Japan Society of Naval Architects and Ocean Engineers presents awards every year to Japanese-built ships with notable technical, aesthetic and social aspects. This year the Society has selected nine candidate vessels in total for this year's award, the 27th such occasion.

The society's meetings to decide on and announce the choice for the Ship of the Year 2016 award were held on May 29 at Meiji Kinenkan in Minato-ku, Tokyo, and finally chose the car carrier, DRIVE GREEN HIGHWAY of Kawasaki Kisen Kaisha, Ltd. ("K" Line). The award winner is a large car carrier with a capacity for 7,550 vehicles, constructed by Japan Marine United and positioned as the flagship of the environmentally friendly fleet built up by the shipowner under its "Drive Green Project" since 2013.

DRIVE GREEN HIGHWAY

The choice of this car carrier for the 2016 award was based on the use of CO_2 reducing features in many parts of the vessel, and the superior anti-pollution features including advance adherence to tightened international regulations against air pollutants (SO_x and NO_x) in its exhaust gas, an aspect of particular importance to human society.

In addition, the TARANAKI SUN and two other vessels powered by the world's first methanol-fired main engines were awarded a special technical prize, and divisional awards were given to FERRY SHIMANTO (large passenger ship division), HIMESHIMA (small passenger ship division), NYK BLUE JAY* (large cargoship division), YUSEISHO (small cargoship division), UME MARU (fishing boat/work vessel division) and AUGUST EXPLORER* (special-purpose vessel division).

The prize giving ceremony was held on Friday, July 7 at the Kaiun Club as a joint event by three maritime technical societies including The Japan Institute of Marine Engineering and the Japan Institute of Navigation.

**NYK BLUE JAY*

**AUGUST EXPLORER*

Marine Engineering of the Year 2016 Award given to Container-Packaged SO_x Scrubber

The Japan Institute of Marine Engineering has given the Marine Engineering of the Year 2016 Award to the Container-Packaged Type Hybrid SO_x Scrubber System jointly developed by Mitsubishi Heavy Industries, Ltd. (MHI) and Mitsubishi Kakoki Kaisha, Ltd. The official ceremony to present the award was held at the Kaiun Club on July 7.

The Hybrid SO_x Scrubber System is equipped with two different washing lines, one using fresh water and the other using seawater, selected according to the characteristics of the sea area. No major alteration of engine room arrangement is required, since its main equipment items except the scrubber tower and tanks are housed in two containers. Moreover, the system is easy to be installed in not only newly built ships but also in ships already in service. The container can be easily transferred from one ship to another if needed in the future.

The new system is installed in the car carrier DRIVE GREEN HIGHWAY of Kawasaki Kisen Kaisha, Ltd. ("K" Line) as part of "K" Line's "DRIVE GREEN PROJECT" under a joint research arrangement by "K" Line, Japan Marine United, Nippon Kaiji Kyokai (NK), MHI and Mitsubishi Kakoki Kaisha, and with support from NK under its joint research scheme in response to the industry's request.

Containers onboard DRIVE GREEN HIGHWAY

MHI completes AIDAperla, a new-generation cruise ship

Mitsubishi Heavy Industries, Ltd. (MHI) delivered the AIDAperla, the second of two large cruise ships being built for AIDA Cruises at the Nagasaki Shipyard & Machinery Works on April 27, 2017.

The AIDAperla has 18 decks, is 300 meters in overall length, has gross tonnage of 125,000 tons, and is equipped with 12 restaurants, 18 bars and an on-board brewery. The numerous indoor public amenities include vast areas dedicated to health and fitness such as the Spa and Gym, and indoor recreational water facilities under large foil domes (one with a water slide) which provide entertainment and enjoyment for all ages. The ship has a total of 1,643 staterooms, so is the most extensive ship in the AIDA Cruise fleet.

The AIDAperla is part of the world's first series of cruise ships equipped with Mitsubishi Air Lubrication Systems (MALS), MHI's proprietary technology that enhances fuel efficiency. Other cutting-edge technologies that save energy, increase

automation and reduce manpower needs include a pod propulsion system, liquefied natural gas (LNG) fuel supply system, the latest gas emissions treatment system, and a new air-conditioning system that saves on energy consumption by using waste heat. The vessel is also equipped with state-of-the-art technologies to ensure safety onboard.

The AIDAperla was christened in a splendid ceremony which took place in Palma de Mallorca on June 30, 2017. She is deployed for year round 7-day cruises out of Palma de Mallorca to cities in the Mediterranean, including Corsica, Rome/Civitavecchia, Florence/Livorno and Barcelona.

Principal particulars

L (o.a) x B x d (des.):	300m x 37.6m x 8m
GT:	abt.125,000
Decks:	18
Staterooms:	1,643
Restaurants:	12
Bars:	18
Passengers:	abt. 3,300
Propulsion:	14MW x 2 sets
Main engine:	12MW x 3 units, 10.8MW x 1 unit

JMU completes passenger/car ferry, SUNFLOWER FURANO

Japan Marine United Corporation (JMU) delivered the SUNFLOWER FURANO, a 14,000 GT domestic passenger/car ferry, to MOL Ferry Co., Ltd. on April 27, 2017. The vessel was built at the Isogo Works of JMU's Yokohama Shipyard and has entered service between Oarai in Ibaraki and Tomakomai in Hokkaido.

The vessel can achieve higher propulsive performance with the newly developed hull form and energy saving technologies such as contra-rotating propellers (CRPs). The vessel has a hybrid propulsion system that drives the CRPs by main engines and/or electric motors. Under normal seagoing, the CRP is driven by two main engines with lower fuel consumption. For maneuvering in a harbor, the CRPs are driven by two electric motors, and side thrusters are driven by power from the shaft generators driven by the two main engines. The hybrid propulsion system is suitable for passenger/car ferries, which have priority not only in sea going operations but also in maneuvering in harbors.

The accommodation of the vessel has been well designed for comfortable voyages for the passengers. The vessel has a great variety of cabins such as suite rooms, premium rooms with a balcony, barrier-free rooms, and private rooms allowing pets, etc. In the public spaces, various facilities are arranged such as the promenade with partially open deck, grand bathrooms with sauna, dog run spaces, etc.

Principal particulars

Length (o.a.):	199.70m
Breadth (mld.):	27.20m
Gross tonnage:	13,816
Service speed:	24.0kt
Main engine:	2 units
Propulsive motor:	2 units
Officers and crew:	46 members
Passengers:	590 persons
Cargo loading capacity:	
	About 160 trucks
	About 100 passenger cars

BARI-STAR construction completes 100 vessels of the IS series

Imabari Shipbuilding Co., Ltd. completed newbuilding of the "IS" BARI-STAR on May 30, 2017, which is the milestone 100th vessel of the IS series 38,000 DWT type double hull bulk carrier (commonly called the BARI-STAR) and was named BERGE PHAN XI PANG at its Imabari Shipyard.

Thanks to the high reputation among the many local and overseas owners, 100 vessels of the BARI-STAR series have been built in about sevn years since the NORD IMABARI was completed in 2010. The BARI-STAR series has been providing safe seaborne transportation through carriage of various cargoes including steel products, logs, and others with good fuel consumption efficiency.

BERGE PHAN XI PANG, 100th of "IS" BARI-STAR series

The Imabari Shipbuilding Group continues to devote its energy to building better ships which may earn the long-lasting appreciation of owners worldwide.

Principal particulars

L (o.a.):	180.0m
B (mld.):	29.8m
D (mld.):	15.0m
DWT/GT:	37,800t/23,300
Main engine:	6S50ME-C8.2 diesel x 1 unit

BV grants Approval in Principle to Mitsui noah-FPSO Hull

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has obtained Bureau Veritas Approval in Principle (AIP) for the noah-FPSO Hull and associated design and construction methods following American Bureau of Shipping specifications. This AIP provides assurance of the feasibility and reliability of the noah-FPSO Hull design.

The noah-FPSO Hull is a next generation FPSO (Floating Production, Storage and Offloading) platform, and "noah" stands for New Offshore Adapted Hull. The noah-FPSO Hull allows a flexible approach to design and construction of the hull reflecting production requirements, rather than adjusting the production facilities to the hull's design.

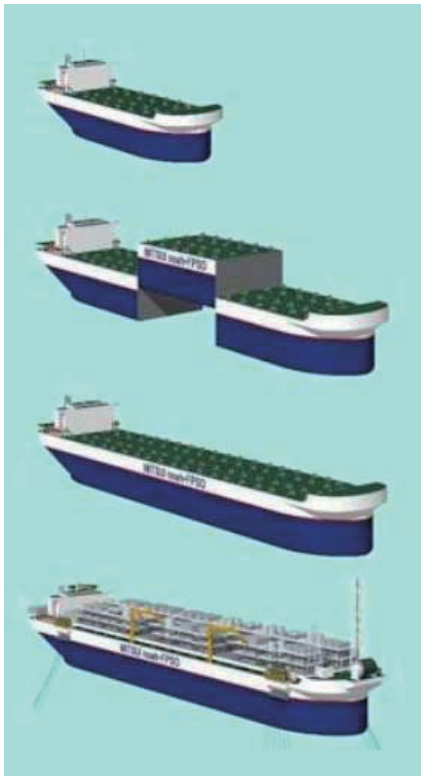
The unique features are as follows:

(1) The noah-FPSO Hull can be applied to any operational field as a platform, optimizing both EPCI processes and operation and maintenance.

(2) The wide deck area of the noah-FPSO Hull permits the installation of more complex and heavier topsides compared with conventional FPSO conversions.

(3) The modular design concept of the noah-FPSO Hull, assembling appropriate modules, meets a wide range of requirements of individual oil fields, and provides for flexibility in the event of design changes - as is common in FPSO projects.

(4) The standardized fore/aft modules and the parallel-body module with adjustable length can be separately constructed at different shipyards, significantly expanding options for construction location, as well as scheduling based on dock availability.



(5) The unique hull form of the noah-FPSO Hull consists of flat or 2-dimensional bending plates, which reduce construction costs and improve operability and availability against green water or slamming loading.

Applying the noah-FPSO Hull as a platform for the FPSO allows a new business model for FPSO projects, and additionally will provide fast-track and flexible solutions to challenging FPSO projects, so MES has launched an open alliance, the "noah-Alliance".

Joining the noah-Alliance enables any shipyard around the world to construct noah-FPSO Hulls using MES engineering services with a design and construction license and functional design package.

MES is now marketing the noah-FPSO Hull to establish the common platform in the expectation that the FPSO market will expand significantly.

KHI develops new-shaped Moss type LNG tank for LNG carriers

Approvals obtained from three classification societies

Kawasaki Heavy Industries, Ltd. (KHI) has developed a Moss type LNG tank with a new shape for LNG carriers, and acquired Approvals in Principle (AiPs) from three classification societies including Nippon Kaiji Kyokai, the American Bureau of Shipping and Det Norske Veritas-Germanischer Lloyd (DNV GL). Approvals acquired from these three organizations, reputed for their particularly high technological capabilities and authorization records among the major classification societies in the world, reflect the high reliability and feasibility of the new-shaped Moss type LNG tank.

In recent years, the seaborne volume of LNG has been growing along with greater use as a fuel for power plants. So, larger LNG carriers are demanded to satisfy the needs for higher transport efficiency through capacity expansion while also keeping suitability for passage through the new Panama Canal.

The new-shaped Moss type LNG tank has achieved improvement in volumetric efficiency without sacrificing the sloshing-free performance, which is an advantage of Moss type LNG tanks, and the ease of inspection during the construction process and after a delivery. Tank capacity is expanded by deforming the round vertical section of the spherically formed conventional Moss type LNG tank to approach a square, thereby reducing the gap between the hull and the tank.

The main features of the new-shaped Moss type LNG tank include the following:

(1) Compared with the conventional spherical tank mounted on 155,000m^3 LNG carriers, the new-shaped tank has increased loading capacity by about 15% without altering the tank breadth or length. This permits the new LNG carrier to pass the new Panama Canal while carrying LNG of 180,000m^3 in total.

(2) The tank height is less than the conventional stretched spherical tank, so the visibility from the bridge and the ship's stability are improved.

(3) The new design tank belongs to the same IMO independent tank type B as the conventional Moss type LNG tank, and achieves high reliability proven by an advanced comprehensive structural analysis based on the traditional technique but utilizing a newly established strength evaluation technique.

(4) The curved shell of the tank formed from aluminum alloy panel is virtually free from the influence of sloshing due to hull motions. Therefore, no filling ratio restriction is required.

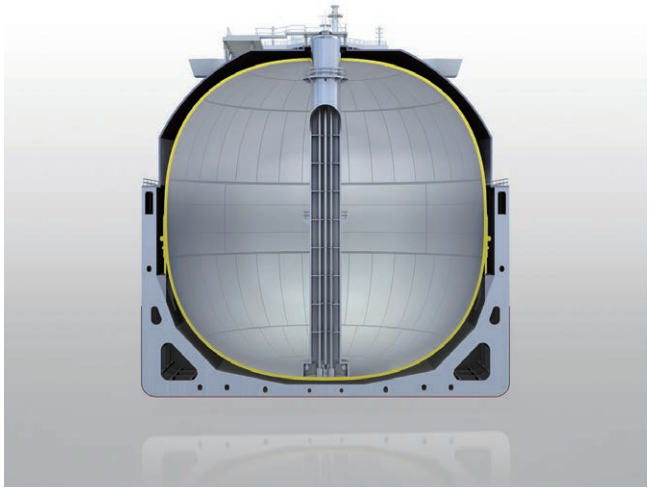
(5) The tanks can be easily inspected during the construction process and after a delivery, resulting in high safety.

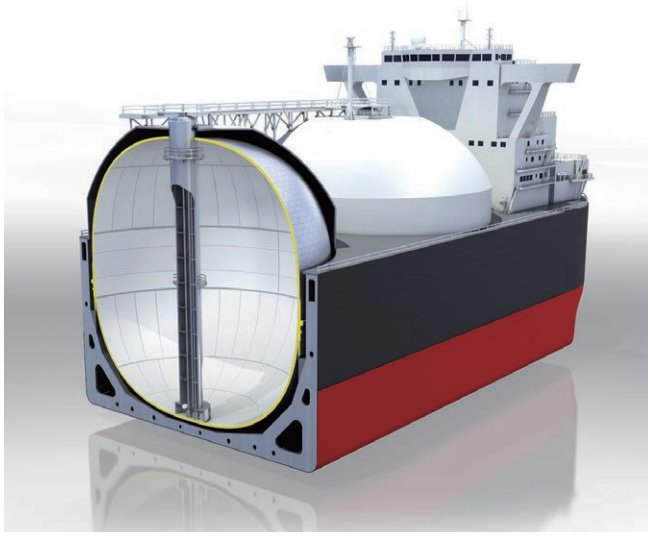
(6) KHI's unique Kawasaki Panel System, a thermal insulation system with performance ranked among the world's highest levels, can be used to reduce boil-off gas and restrain losses during transportation.

New SAJ Chairman appointed

Mr. Yasuhiko Katoh

The 75th annual general meeting of the Shipbuilders' Association of Japan (SAJ) took place on June 20 and elected 19 new directors. Subsequently, the 661st board of directors' meeting was held, and Mr. Yasuhiko Katoh was appointed as the 36th Chairman of SAJ. Mr. Katoh is also Senior Adviser of Mitsui Engineering & Shipbuilding Co., Ltd.





ISUZU MARU

Owner: MISUGA S.A.
Builder: Oshima Shipbuilding Co., Ltd.
Hull No.: 10795
Ship type: Bulk carrier
L (o.a.) x B x D x d (ext.): 249.98m x 43.00m x 18.50m x 12.863m
DWT/GT: 100,165t/56,825
Main engine: JAPAN ENGINE 7UEC60LSE-ECO-A2 diesel x 1 unit
Speed, service: 14.00kt
Registry: Marshall Island
Classification: NK
Completion: April 14 , 2017

MEDI PERTH

Builder: Sanoyas Shipbuilding Corporation
Hull No.: 1340
Ship type: Bulk carrier
L (o.a.) x B (mld.) x D (mld.) x d (mld.): 199.99m x 32.24m x 18.38m x 12.868m
DWT/GT: 60,466t/34,164
Cargo hold capacity: 77,067m^3
Main engine: MAN B&W 6G50ME-B9.3 diesel x 1 unit
MCO: 7,740kW
Speed, service: about 14.3kt
Complement: 25
Registry: Panama
Classification: ABS

UNITY VENTURE

Owner: Happy Ambiance Limited
Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Hull No.: 1387
Ship type: Tanker
L (p.p.) x B x D: 228.97m x 44.00m x 21.8m
DWT/GT: 112,000t/60,200
Main engine: Mitsui MAN B&W 6G60ME-C9.2 diesel x 1 unit
Speed, service: 15.2kt
Classification: LR
Completion: April 10, 2017

BENJAMIN CONFIDENCE

Owner: Southern Shipping Services Inc.
Builder: The Hakodate Dock Co., Ltd.
Hull No.: 877
Ship type: Bulk carrier
L (o.a.) x B x D x d: 179.97m x 30.00m x 14.05m x 9.822m
DWT/GT: 34,898t/21,502
Main engine: MAN B&W 6S46ME-B8.3 diesel x 1 unit
Speed, service: 14.0kt
Classification: NK
Complement: 24
Completion: February 9, 2017

KODIAK ISLAND

Owner: Kodiak Island Limited
Builder: Kanda Shipbuilding Co., Ltd.
Hull No.: 559
Ship type: Log & bulk carrier
L (o.a.) x B x D x d (ext.): 179.9m x 30.0m x 15.0m x 10.527m
DWT/GT: 37,581t/23,275
Main engine: 6UEC45LSE-B2-ECO diesel x 1 unit
Speed, service: 14.0kt
Registry: Hong Kong
Classification: NK
Completion: March 30, 2017

MELODY FAIR

Owner: Hawk Marine Corporation S.A.
Builder: Saiki Heavy Industries Co., Ltd./Onomichi Dockyard Co., Ltd.
Hull No.: 722
Ship type: Bulk carrier
L (o.a.) x B x D x d(ext.): 195.00m x 32.26m x 18.60m x 13.00m
DWT/GT: 60,280t/34,808
Main engine: MAN B&W 6S50ME-B9.3 diesel x 1 unit
Speed, service: 14.5kt
Registry: Liberia
Classification: NK
Completion: March 30, 2017