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Shin Kurushima completes Overpanamax PCC, HAWAIIAN HIGHWAY

Shin Kurushima Dockyard Co., Ltd. completed the HAWAIIAN HIGHWAY (HN: S-5848), a car carrier with a car-carrying capacity of 7,500 units, ordered by Kawasaki Kisen Kaish, Ltd. ("K" Line), at its Onishi Shipyard on July 17, 2015. The car carrier loaded rolling stock (inserted photo) constructed for an intercity train service in the UK at Pier No. 2 of Tokuyamakudamatsu Port in Yamaguchi Pref. on July 21 and departed for its maiden voyage.

The HAWAIIAN HIGHWAY has 12 car decks, three of which are the liftable type. This arrangement greatly increases the loading capacity of heavy cargoes and permits efficient loading of cargoes from large and heavy vehicles to small cars. In particular, the boarding deck has a clearance with sufficient height to allow roll on and off of lengthy cargoes like rolling stock due to consideration of accessibility from the shore ramp.

The newly-developed hull structure that can eliminate partial bulkheads was adopted for this newbuilding project. This structure allowed arrangement of inboard ramps beside the ship side shell, and adoption of wider ramp and interdeck direct access. Thus, suitable arrangement of inboard ramps facilitates roll-on/off work.

The overall length of the vessel is limited within 200m so not to be affected by restrictions to ship operation. The beam is designed to be 38m that is wider than the conventional Panamax vessel considering the enlargement of the Panama Canal, and the cargo loading capacity was increased greatly. As a result, the fuel consumption per cargo unit can be reduced greatly compared with existing PCCs.

The main engine is a highly reliable two-cycle electronically controlled diesel engine employing the VTI supercharger system that is effective to decrease fuel consumption during operation under part load of the engine. The vessel uses appendages such as the A.S. Fin and Turbo-Ring, K3-Propeller with optimized blades, aerodynamic screen for reducing wind pressure, and bottom paint with less resistance, which contribute to ecofriendly and energy saving performance.

Principal particulars

Ship type:	CC (Car carrier)
L (o.a.) x B x D:	199.96m x 38.0m x 38.14m
DWT/GT:	20,606t/75,126
Main engine:	7UEC60LSE-Eco-A2 diesel x 1 unit
Speed, service:	20.0kt
Classification:	NK
Completion:	July 17, 2015

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MHI completes 24,000GT car/passenger ferry, FERRY OSAKA II

Mitsubishi Heavy Industries, Ltd. (MHI) delivered the Ferry Osaka II, a 24,000GT passenger and car ferry, to the co-owners Japan Railway Construction, Transport and Technology Agency and Meimon Taiyo Ferry Co., Ltd. on September 11, 2015. The vessel was designed and built at the Shimonoseki Shipyard & Machinery Works of MHI, and is now plying a Seto Inland Sea route between Shin-Moji and Osaka.

The truck loading capacity of the new vessel is enlarged by 30% compared with the former vessel to contribute to the modal shift of transport, and a hybrid propulsion system is applied for eco-friendly energy saving and high ship maneuverability.

The hybrid propulsion system consists of a main propeller directly driven by a diesel engine and two electric-drive azimuth propellers besides the main propeller. These azimuth propellers are used as propulsion assistance to the main propeller, main propulsion in the harbour speed range, and stern thrusters. Moreover, the vessel uses the Mitsubishi Air Lubrication System (MALS) which covers the ship's bottom with air bubbles to reduce the frictional resistance between the ship hull and seawater.

Passenger private and public spaces are designed in the theme of "Natural-tone" with the motif of the rich nature of the inland sea. For greater comfort of passengers, more private rooms are provided compared with the former vessel. Barrier-free access is also considered for passenger embarkation, and two elevators are provided between the lowest and the highest decks.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d:	183.00m x 172.00m x 27.00m x 15.15m x 6.70m
Gross tonnage:	23,984
Speed, service:	23.2kt
Cargo loading capacity:	146 trucks 105 cars
Complement:	
	713 passengers (coasting service)
	38 officers and crew
Machinery	
Main diesel engine:	2 units
Main propeller (CPP):	1 unit
Propulsion electric motors:	2 units
Aux. Propeller (Azimuth CPP):	2 units
Flag:	Japan
Port of Registry:	Osaka

Oshima completes 34,000DWT-type box laker, FEDERAL BEAUFORT

Oshima Shipbuilding Co., Ltd. delivered the 34,000DWT type box laker, FEDERAL BEAUFORT, to Federal Atlantic Ltd. on June 4, 2015. This is the second vessel of the 34,000 box laker series. The vessel has six cargo holds with wide hatch covers to improve cargo handling efficiency. Despite the shallow draft design, the vessel has 34,000 DWT capacity and is allowed to carry various cargoes including hot coils, ingots, containers, and dangerous products besides bulk cargoes.

The cargo holds are a box shape suitable for loading unitized and packaged cargoes. For handling such cargoes, four deck cranes with a 40t hoisting capacity are installed on the upper deck. The vessel is classified with the notation of ICE-IE of DnV GL, since the vessel will navigate cold water areas.

Reduction of the fuel consumption of the vessel is achieved by adopting a set of advanced flipper-fins, a rudder bulb, low friction bottom paint, and an electronically controlled main engine. The Oshima Seaworthy Bow that demonstrates excellent seaworthiness also improves the ship speed performance under rough weather conditions. The bow thruster and high-lift rudder achieve improved maneuverability in a port. The vessel complies with the IMO regulations for fuel oil tank protection. In addition, the vessel is assigned class DNV GL's environmental protection notation, CLEAN..

Principal particulars

Length (o.a.):	199.98m
Length (b.p.):	195.50m
Breadth, mld.:	23.762m
Depth, mld.:	14.85m
Summer draft, mld.:	10.830m
DWT/GT:	34,564t/20,789
Cargo hold capacity:	41,651m^3
Main engine:	Kawasaki MAN B&W 5S50ME-B9.3 x 1 unit
MCR:	6,050kW x 99.0rpm
Speed, service:	14.0kt
Classification:	DNV GL
Completion:	June 4, 2015

JMU completes 209,000DWT bulk carrier, CHINA STEEL SUCCESS

Japan Marine United Corporation (JMU) delivered the CHINA STEEL SUCCESS, a 209,000DWT bulk carrier, at the Ariake shipyard on July 14, 2015. This vessel is a Cape size bulk carrier of the "G-Series," which greatly reduces fuel consumption during navigation, and is categorized into Phase 2 of the Energy Efficiency Design Index (EEDI) defined in the MARPOL Annex VI.

The vessel can achieve impressive hull performance based on the technologies of advanced lower resistance hull form, optimized energy saving devices of SSD (Super Stream Duct) and Surf-Bulb (Rudder Fin with Bulb) equipped in front of and behind the propeller, respectively, unique bow shape, called the "LEADGE BOW," which reduces added wave resistance both at laden and ballast conditions, and well-refined accommodation house with low air resistance shape. The high efficiency machinery plant is equipped with an efficient main engine, MAN B&W 7S65ME-C8.2.

With the above fuel consumption benefit, the CHINA STEEL SUCCESS is the most competitive and efficient Cape size bulk carrier with large deadweight at shallow draft, large hold capacity and large cargo hatch openings, thus allowing high flexibility for port restrictions.

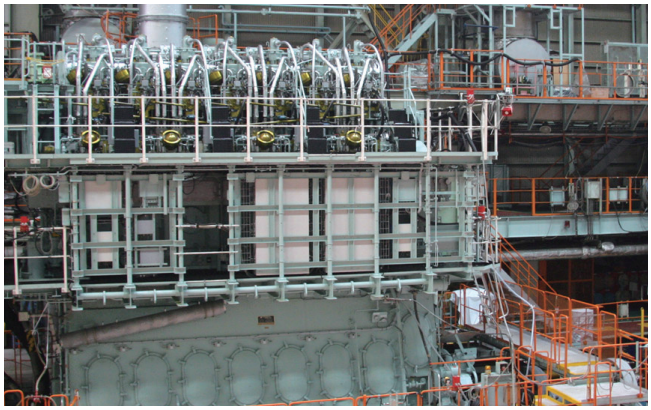
Principal particulars

L (o.a.) x B x D: 299.99m x 50.00m x 25.00m
DWT/GT: 209,988t/107,075
Main engine: MAN B&W 7S65ME-C8.2 diesel x 1 unit
Speed: 14.50kt
Complement: 25
Classification: NK/CR

MES conducts trial on ME-LGI engine fueled by methanol

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) conducted a demonstration running of the ME-LGI, the world's first dual-fuel low-speed diesel engine that can be fueled by methanol. Ordered by Mitsui O.S.K. Lines, Ltd. the ME-LGI is an electronically controlled liquid gas injection low speed diesel engine scheduled to be installed in a methanol carrier (ship completion scheduled for 2016) built by Minaminippon Shipbuilding Co. Ltd.

This demonstration running was conducted using the data gained from methanol fuel tests run using MES in-house test engine. Safety studies for the ME-LGI and methanol supply system were selected for sponsorship under the Next-Generation Marine Environment Technology Development Support Project sponsored by the Ministry of Land, Infrastructure, Transport and Tourism. These studies also are part of joint research MES is conducting in collaboration with Nippon Kaiji Kyokai (Class NK).



Expected to lead to reductions in carbon dioxide (CO_2) emissions and significant reductions in sulfur oxide (SO_X) and particulate matter (PM) emissions, methanol has gained attention as an environment-friendly fuel. In addition to methanol, the ME-LGI is compatible with ethanol, LPG, and dimethyl ether (LFL fuel = low flashpoint liquid fuel).

The establishment of a system for ME-LGI engine production and operation, and the development of a total control system, including for the LFL fuel supply, represents the completion of a comprehensive structure that will enable MES to meet a diverse range of fuel needs such as the ME-GI (LNG & heavy fuel oil), the ME-GI-Ethane (ethane & heavy fuel oil), and the ME-LGI (methanol, other fuels & heavy fuel oil). MES will continue to offer its customers propulsion systems that are both environmentally and economically friendly.

Dual-fuel diesel engines available from MES

Engine model	Compatible fuels	Current engine building projects
ME-GI	LNG & heavy fuel oil	2 projects, 6 engines (for LNG-fueled ship and LNG carrier)
ME-GI-Ethane	Ethane & heavy fuel oil	1 project, 3 engines (for LEG (liquefied ethylene gas carrier)
ME-LGI	Methanol & heavy fuel oil or, Ethanol & heavy fuel oil or, LPG & heavy fuel oil or, Dimethyl ether & heavy fuel oil	1 project, 3 engines (for methanol carrier)

Sanoyas completes Panamax bulk carrier, LOWLANDS NELLO

Sanoyas Shipbuilding Corporation delivered the LOWLANDS NELLO (HN: 1337), a Panamax bulk carrier, constructed at the Mizushima Shipyard to the owner CLdN Bulk II S.A. on June 26, 2015. This is the 5th vessel of the series of new Sanoyas 82,000DWT-type Panamax bulk carriers.

The vessel has larger cargo hold capacity and further improved fuel consumption by 10% compared with the previous version of the 83,000DWT type featuring 10% improvement in fuel efficiency from the existing design. The vessel achieves Phase 2 level of EEDI (Energy Efficiency Design Index: measured as grams CO_2 per ton nautical mile) regulation that has been applied to the building contracts for ships placed on or after January 1, 2013.

For improvement of propulsion efficiency, the vessel is equipped with a low-speed and long-stroke electronically controlled main engine combined with a high-efficiency propeller and associated energy saving devices such as the Sanoyas developed "STF" (Sanoyas-Tandem-F'in (patent): max. 6% energy saving) on the stern shell and highly efficient appendages on the rudder, which also contribute to reduction of CO_2 emissions.

Various eco-friendly measures are taken by fitting the main engine complying with NO_x emission limits under Tier II for air pollution prevention, a dedicated low sulphur diesel oil tank for use in emission control areas (ECA), a ballast water treatment system and fuel oil tank protection for the marine environment conservation. In addition, independent holding tanks are provided for accommodation discharges, dirty hold bilge and rainwater on the upper deck.

Maintenance is also greatly improved by providing access trunks from the upper deck to the double bottom even under the laden condition. Wooden furniture in the accommodation area makes officers and crew comfortable on the vessel, and safe maneuverability is achieved with organized arrangement and rear visibility in the wheelhouse.

Principal particulars

Owner:	CLdN Bulk II S.A.
L (o.a.) x B x D x d:	229.00m x 32.24m x 20.20m x 14.668m
DWT/GT:	82,014t/43,439
Cargo hold capacity: (grain)	96,597m^3
Main engine:	MAN B&W 6S60ME-C8.2 diesel x 1 unit
MCO:	8,740kW
Speed, service:	about 14.5 knots
Complement:	25
Classification:	NK
Registry:	Republic of Malta
Delivery:	June 26, 2015

Tsuneishi delivers 3rd TESS58 AEROLINE 57,500DWT bulker, KING ISLAND

Tsuneishi Shipbuilding Co., Ltd. delivered the KING ISLAND, a 57,500DWT bulk carrier, to her owner at the Tsuneishi Factory on June 9, 2015. The vessel is the third delivery of the TESS58 AEROLINE series from the Tsuneishi Group.

The TESS58 AEROLINE developed by the company is a premium class vessel featuring a higher fuel efficiency design, which characterizes the TESS (Tsuneishi Economical Standard Ship) product series. The AEROLINE is a newly-developed slimmed superstructure design with rounded corners to reduce wind resistance, which combined with the rounded upper bow, results in 10% reduction of wind resistance.

The KING ISLAND adopts an electronically controlled diesel engine for the main engine together with its proprietary energy-savings technologies, so the fuel efficiency is greatly improved thanks to the AEROLINE hull featuring low wind resistance.

Principal particulars

Ship type:	Bulk carrier (TESS58)
Ship name:	KING ISLAND
Length (o.a.):	190.00m
Breadth (mld.):	32.30m
Depth (mld.):	18.02m
DWT/GT:	57,631t/32,700
Main engine:	MAN-B&W 7S50ME-B9.3 diesel x 1 unit
Speed, service:	14.50kt

Kawasaki completes hybrid ecofriendly system, K-ECOS

—World's first NO_x/CO_2 reduction system for marine diesel engines—

Kawasaki Heavy Industries, Ltd. has developed K-ECOS, or Kawasaki-Ecofriendly System, at its Kobe Works. This is the world's first hybrid system to reduce nitrogen oxide (NO_x) and carbon dioxide (CO_2) emitted from marine diesel engines. The performance of the first system was verified in trial operations using a two-cycle diesel engine (model 7S60ME-C8.2).

The International Maritime Organization (IMO) has phased in the regulation of NO_x emission from ships engaging in international voyages. Under the Tier II regulation applied from 2011, NO_x emission limits from marine diesel engines must now be reduced by 15 to 22% from the NO_x emission limit values of Tier I. NO_x emission limits under Tier III, which will become mandatory in 2016, will be decreased by 80% from the values of Tier I, to be applied in designated emission control areas (ECA).

K-ECOS is a hybrid exhaust-gas control system for diesel engines, which is an integrated system using supercharger cut-off operation, water-emulsion fuel, and exhaust gas recycling (EGR). K-ECOS can reduce fuel consumption and NO_x emission using supercharger cut-off operation and water emulsion fuel, respectively, for ships navigating in an ECA designated by Tier II. Therefore, this system can decrease fuel consumption and CO_2 emission greatly compared with diesel engines complying with Tier II requirements. Moreover, EGR can additionally be activated to lower NO_x emission to the required limits of Tier III without increasing fuel consumption and CO_2 emission for ships in Tier III ECA.

The K-ECOS completed this time will be mounted on a two-cycle diesel engine built by Kawasaki, and this engine will be mounted on a large car carrier being constructed by Japan Marine United Corporation for Kawasaki Kisen Kaish, Ltd. ("K" Line) as part of its "DRIVE GREEN PROJECT" that is now promoted by the company for the next generation of environmental conservation. The car carrier will be completed in the end of 2015.

Niigata completes semi-submersible marine observation boat, SUBMARINE Jr. II

Niigata Shipbuilding & Repair, Inc., wholly owned by Mitsui Engineering & Shipbuilding Co., Ltd. (MES), delivered the SUBMARINE Jr. II to K.K. Panorama Hotels One at its Misaki Shipyard on July 10, 2015. The SUBMARINE Jr. II is the first semi-submersible marine observation boat built by the company and replaces the same type (Model SJD-40) built previously by MES.

The lower part of the ship side shell has 11 underwater windows on each side made of acryl glass measuring 510mm in height and width and 40mm in thickness. These windows allow sightseers to observe the marine ecology spread over coral reefs.

Unusual experiences are provided for the sightseers during navigation. The observation cabin is basically decorated with dark grey and blue to give an image of darkness in a submarine. The cabin is provided with a periscope replica, sonar sound, illumination panels, instrument panel replicas, TV monitors, etc., which help give the impression of a voyage in a submarine.

The SUBMARINE Jr. II is now in service at the ANA INTER-CONTINENTAL MANZA BEACH RESORT in Okinawa.

Principal particulars

Length, o.a.:	13.99m
Width, mld.:	5.00m
Depth, mld.:	2.60m
Draught, designed:	1.25m
Gross tonnage:	16
Main engine:	128kW diesel x 2 unit
Speed:	about 9kt
Complement:	46 (max.)
(Passengers: 44, Crew members: 2)	

CSK UNITY

Owner: Sumitomo Corporation
Builder: Imabari Shipbuilding Co., Ltd.
Ship type: Bulk carrier
L (o.a.) x B x D:224.9m x 32.24m x 19.9m
DWT/GT: 62,124t/40,963
Main engine: 6S60ME-C7.1 diesel x 1 unit
Speed, service: 14.50kt
Classification: NK
Completion: May 27, 2015

ATTIKI SB

Owner: Young Attiki Shipping Limited
Builder: Japan Marine United Corporation
Hull No.: 5051
Ship type: Bulk carrier
L (o.a.) x B x D: 198.0m x 32.26m x 18.60m
DWT/GT: 60,900t/34,345
Main engine: DU-WARTSILA 6RT-flex50-D diesel x 1 unit
Speed, service: 13.95kt
Classification: NK
Registry: Cyprus
Delivery: June 12, 2015

SCARABÉ

Owner: Tundra Shipping Ltd.
Builder: Mitsui Engineering & Shipbuilding Co., Ltd.
Ship type: Bulk carrier (neo 60BC)
Hull No.: 1894
L (o.a.) x B x D: 199.99m x 32.25m x 18.50m
DWT/GT: 60,435t/34,553
Main engine: Mitsui-MAN B&W 6S50ME-B9.3 diesel x 1 unit
Speed, service: 14.5kt
Complement: 24
Classification: NK
Delivery: June 3, 2015

FIORA TOPIC

Owner: Albro Navigation Company Inc.
Builder: Namura Shipbuilding Co., Ltd.
Hull No.: 401
Ship type: General cargo ship
L (o.a.) x B x D x d: 179.96m x 30.00m x 14.05m x 9.80m
DWT/GT: 34,356t/21,571
Main engine: MAN B&W 6S46ME-B8.3 diesel x 1 unit
Speed, service: about 14.0kt
Classification: LRS
Complement: 23
Delivery: July 8, 2015

AFRICAN JAY

Owner: African Jay Shipping Co., Ltd.
Builder: Naikai Zosen Corporation
Hull No.: 778
Ship type: Cargo ship
L (o.a.) x L (b.p.) x B x D x d: 183.00m x 177.00m x 30.60m x 14.50m x 10.00m
DWT/GT: 37,705t/23,750
Cargo hold capacity: 47,125.3m^3
Main engine: Hitachi-MAN B&W 6S46ME-B8.3 diesel x 1 unit
Speed, service: about 14.1kt
Classification: ABS
Registry: Bahamas
Completion: July 10, 2015

KAHYASI

Owner: Kahyasi Shipping Pte. Ltd.
Builder: Sasaki Shipbuilding Co., Ltd.
Hull No.: 688
Ship type: 11,000CBM LPG tanker
L (o.a.) x B x D x d (ext.): 119.92m x 20.60m x 9.60m x 6.815m
DWT/GT: 8,130t/7,951
Main engine: Hitachi MAN B&W 6S35ME-B9.3C diesel x 1 unit
Output: 4,170kW x 167rpm
Speed, service: 14.0kt
Classification: BV
Registry: Singapore
Completion: June 10, 2015