

# MHI completes a car/passenger ferry SILVER PRINCESS



Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the SILVER PRINCESS (HN:1158), a car/ passenger ferry, and delivered the vessel to Kawasaki Kinkai Kisen Kaisha Ltd. at the Shimonoseki Shipyard & Machinery Works on April 5, 2012. The ferry is now engaged in regular service on the Tomakomai to Hachinohe route in Japan.

The propulsion system uses two main engines and two controllable pitch propellers driven through two reduction gears. The state-of-the-art hull form was developed based on model tank tests to reduce fuel oil consumption during normal navigation.

Various types of cabins are provided, and the passengers can select from deluxe class, first class, and economy class cabins. The passengers can enjoy their time on board in various public spaces such as a restaurant, grand bath with ocean view, entrance hall, lobby, kids' room, and so on. The Japanese barrier-free rules are applied to the vessel. Disabled passengers together with other people can move safely and enjoy their voyage with various barrierfree facilities.

| Principal Particulars              |                        |
|------------------------------------|------------------------|
| Length (o.a.):                     | 150.0m                 |
| Length (b.p.):                     | 137.5m                 |
| Breadth:                           | 25.0m                  |
| Depth:                             | 13.15m(No.4deck)       |
| Design draft:                      | 5.85m                  |
| Gross tonnage:                     | 10,536                 |
| Main propulsion system: Diesel eng | gine 7,200kW x 2 units |
| Service speed:                     | 20.5kt                 |
| Cruising range:                    | Approx. 2,500n.m.      |
| Passengers:                        | 500 persons            |
| Complement:                        | 30                     |
| Classification:                    | JG                     |
|                                    |                        |

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#### Kawasaki delivers bulk carrier AMAMI K to KAW 1690 Shipping S.A.

Kawasaki Heavy Industries, Ltd. delivered the AMAMI K bulk carrier for KAW 1690 Shipping S.A. at the Sakaide Works on February 28, 2012. This 197m-long vessel (HN: 1690) is the 12th state-of-the-art bulk carrier with a capacity of 58,000DWT developed by Kawasaki.

The vessel has a flush deck with the forecastle and five holds that are designed for optimum transport of grains, coals, ores, and steel products. Four 30t deck cranes are installed along the ship's centerline in between the hatch covers to enable cargo loading and unloading at ports that lack cargo-handling facilities.

The vessel employs advanced technology to achieve maximum fuel economy, including a fuel-saving main diesel engine, highly efficient propeller, Kawasaki rudder bulb system



with fins (RBS-F), as well as a bow designed to reduce wave resistance, all of which contribute to enhancement of the propulsion performance. The main engine and generator engine comply with the Tier II  $NO_x$  emission standards set by the International Convention for the Prevention of Pollution from Ships.

Principal particulars

 $L\left(o.a.\right)x\,L\left(b.p.\right)x\,B\,x\,D\,x\,d:197.00m$ x 194.00m x 32.26m x 18.10m x 12.65m (full load) DWT/GT: 58,613t/33,126 Cargo hold capacity: 73.614m<sup>3</sup> Main engine: Kawasaki-MAN B&W 6S50MC-C7 diesel x 1 unit MCR: 8,630kW x 116rpm Speed, service: about 14.5kt Complement: 28Classification: NK Panama Registry:

#### MES delivers 177,000DWT bulk carrier CAPE HARMONY

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) recently completed the 177,000DWT bulk carrier CAPE HARMONY (HN: 1733), which had been under construction at its Chiba Works and delivered the vessel to her owner, Ocean Transit Carrier S.A., Panama on March 8, 2012.

This is the 10th ship of the Capesize bulk carrier of Dunkerque-Max type achieving effective cargo handling, easy cargo hold maintenance, and enhanced safety of hull construction by adoption of double sidewall construction for the cargo hold.

- 1. In spite of cargo holds bounded by a double-side skin according to SOLAS, the cargo capacity of the ship is equivalent to that of conventional Cape-size bulk carriers with holds bounded by a single-side skin.
- 2. The ship was designed in accordance with IACS URS25 so that loading flexibility has been secured and structural safety has been improved.
- 3. Suitable arrangement of means of access required by SOLAS enables

safe and effective inspection in cargo holds and ballast tanks.

- 4. Improvement of safety has been achieved by installation of a forecastle and by application of new requirements concerning reserve buoyancy to the ship.
- 5. Main Engine of the ship is MITSUI-MAN B&W Diesel Engine 6S70MC-C, which satisfies IMO Environment Standards for Exhaust Gas and achieves improvement of fuel saving by optimum matching at normal service output. An electronic controlled cylinder oiling system is
- 7. Ballasting and de-ballasting work can be efficiently made by separation of topside tank and bottom side tank.

Principal Particulars

L (o.a.) x L (b.p.) x B x D: 292.00m x 282.00m x 44.98m x 24.70m

| DWT/GT:                             | 178,373t/92,253   |  |
|-------------------------------------|-------------------|--|
| Main engine: Mit                    | tsui-MAN B&W die- |  |
| sel engine 6S70MC-C diesel x 1 unit |                   |  |
| MCO:                                | 18,660kW x 91rpm  |  |
| Speed:                              | 15.3kt            |  |
| Complement:                         | 25                |  |
| Classification:                     | NK                |  |
| Registry:                           | Panama            |  |

applied to the main engine a chieving operational cost saving.

6. Fuel oil tanks comply with M A R P O L regulation on oil fuel tank protection to p r e v e n t m a r i n e pollution.



#### 120-type Handy Cape bulker GLORIOSA LILY completed

Sanoyas Shipbuilding Corporation delivered the 120-type Handy Cape bulk carrier GLORIOSA LILY (HN: 1305) to the owner Golden Helm Shipping Co., S.A. at the SANOYAS Mizushima Shipyard on April 5, 2012. This vessel is the 5th of the Sanoyas 120,000DWT-type Handy Cape bulk carrier series jointly developed with Mitsui O.S.K. Lines.

This sophisticated new type of vessel has large deadweight with shallow draft, anticipating trade expansion for coal and iron ore in the future market. The vessel with wide beam and shallow draft can clear the restrictions of some ports for large bulk carriers and the vessel has been named "Handy Cape" because it is the most flexible of the Cape size bulk carriers.

For improvement of propulsion efficiency, the vessel is equipped with a low-speed and long-stroke main engine combined with a high-efficiency propeller. SANOYAS has developed an energy saving device called "STF" (Sanoyas-Tandem-Fin (patent): max. 6% energy saving) on the stern shell, which also contributes to the reduction of  $CO_2$  emissions.

The vessel applies the "Common

Structural Rules" (CSR) of the International Association of Classification Societies. Considering protection of environment, various countermeasures such as fuel oil tanks with double hull structures, holding tank for accommodation discharges, and dirty hold bilge and independent bilge segregation system for the engine room, are incorporated.

For efficient cargo handling, cargo hatches are widened as much as possible and have the same width from No.1 to No.7 hatch. Dedicated fresh water tanks are provided for storing hold washing water generated by a large capacity type fresh water generator. In addition, a special fuel oil heating system is applied for the fuel

oil storage tanks to avoid cargo damage by overheating and to save steam consumption.

Wooden furniture in the accommodation makes officers and crews comfortable on board the vessel, and safe maneuverability is achieved with the well-organized arrangement and rear visibility in the wheelhouse.

#### Principal particulars L (o.a.) x L (p.p.) x B x D x d: 245.00m x 238.00m x 43.00m x 21.65m x 15.404m (ext.) DWT/GT: 119,488t/64,642 Cargo hold capacity: 135,717m<sup>3</sup> (grain) Complement: 25Main engine: MAN B&W 6S60MC-C diesel x 1 unit MCO: 13,560kW Speed, service: about 14.6kt Classification: NK Delivered: April 5, 2012 Registry: Panama



#### Universal completes 300,000DWT Unimax ore carrier ORE SAO LUIS

Universal Shipbuilding Corporation delivered the 300,000DWT-type ore carrier ORE SAO LUIS to Regulus Navigation Inc. at the Ariake Shipyard on March 22, 2012.

The vessel is the 19th vessel of the new design series of Unimax ore car-

rier and is now operated in the transport of iron ore from Brazil to Japan. The Universal Unimax ore carrier is optimized with the largest capacity of 300,000DWT class permitted to visit major iron ore loading ports in western Australia and has the hull form



most suitable for Brazilian deep ports. Brazil is presently the largest iron ore shipping country.

Unimax has adequate hull strength applicable to various conditions at loading and discharging ports, and every cargo hold is equipped with the world's largest single panel hatch cover to facilitate cargo handling.

With energy saving devices including Surf-Bulb, SSD, and Ax-bow developed by Universal, the vessel can dramatically improve propulsive efficiency, decreasing fuel oil consumption compared with the conventional large ore carrier.

Principal particulars L (o.a.) x B x D x d: 327m x 55.00m x

| $29.25 \text{m} \ge 21.40$ | m                |
|----------------------------|------------------|
| DWT/GT:                    | 297,076t/151,105 |
| Main engine: MA            | N B&W 6S80MC-C   |
| diesel x 1 unit            |                  |
| Speed, service:            | 14.5kt           |
| Complement:                | 25               |
| Classification:            | NK               |

#### Imabari delivers bulker OCEAN WEALTH to Diamond Camellia

Imabari Shipbuilding Co., Ltd. delivered 38,243 DWT type double hull bulk carrier, OCEAN WEALTH (HN: 0794), to the owner, Diamond Camellia S.A., at the Imabari Dockyard on January 17, 2012. The vessel is the 14th delivery of the 37,000DWT class bulk carrier series named IS BARI-STAR developed by Imabari.

The vessel was designed and constructed as an oceangoing bulk carrier consisting of five cargo holds with double bottom, double hull, and topside tanks. The vessel is suitable for carrying a variety of cargoes including grain, coal, hot steel coils, long steel products, cement, and iron ore. Especially for carrying unit cargoes, the vessel has wide tanktop areas without bilge hopper tanks.

Hatch covers are the folding type driven by the electro-hydraulic system, and four deck cranes are installed on the upper deck. The widths of hatch openings are over 20m to facilitate handling of large cargoes (except the No. 1 cargo hold). Fuel oil tanks at the topside are double hull construction for safety assurance.

To avoid heat damage to cargoes, a F.O. shifter is installed as a fuel oil heating system.

The main engine is the MAN B&W 6S46MC-C (Mark 7) diesel engine that can develop a service speed of 14.7 knots. An energy saving device, the "Hybrid Fin" developed by Imabari, is installed at the fore edge of the rudder just after the propeller. These installations contribute to environmentfriendly and economical operation of the vessel.



Principal particulars

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|--|-----------------------|--|--|--|
| L (o.a.) x L (b.p.) x B x D x d: 179.97m |                       |  |  |  |
| x 173.00m x 29.80m x 15.00m x            |                       |  |  |  |
| 10.538m (ext.                            | .)                    |  |  |  |
| DWT/GT:                                  | 38,243t/23,264        |  |  |  |
| Main engine:                             | MAKITA-MITSUI-        |  |  |  |
| MAN B&W 6S46MC-C (Mk7) die-              |                       |  |  |  |
| $\operatorname{sel} x 1$ unit            |                       |  |  |  |
| MCR:                                     | 7,860kW x 129rpm      |  |  |  |
| Speed, service:                          | 14.7kt                |  |  |  |
| Complement:                              | 25                    |  |  |  |
| Classification:                          | NK                    |  |  |  |
| Delivery:                                | January 17, 2012      |  |  |  |
|  |                       |  |  |  |

#### Naikai completes 37,800DWT general cargo ship GLORIOUS KAURI

Naikai Zosen Corporation completed construction of the 37,800DWT general cargo ship GLORIOUS KAUR for delivery to Peony Shipholding S.A. at the Setoda Works on March 16, 2012.

This dry cargo vessel has been constructed with the latest transport capacity employing the double side shells for every cargo hold and will demonstrate stronger structural performance and better stability against external damage compared with the conventional cargo ship. Should external damage occur, the inner shell of the vessel can prevent loss or outflow of cargoes, thus protecting the quality of cargoes.

The double side shells corresponding to the international regulations also protect the fuel oil tanks for environmental conservation. The vessel has broad beam and shallow draught, which permit entering shallow ports and navigating rivers, channels, and lakes. An adequate rudder area gives course keeping stability to the vessel despite the broad beam.

The cargo hold compartment consists of five holds. The Nos. 2 through 4 holds are the box-shaped type, and four 30t deck cranes are mounted. Wide hatch openings allow loading lengthy cargoes and facilitate cargo



loading and unloading. The G L O R I O U S KAUR is versatile since it can transport cargoes of grains, coal, ores, sulfur, cement, limestone, steel products, and lumbers. Such lengthy cargoes can be loaded in a cargo hold or on the upper deck.

The vessel, as an eco-ship, uses the latest energy-saving type low-speed main engine, a large-diameter propeller SSD (Super Stream Duct) and Surf-Bulb (Rudder Fin with Bulb) for increased fuel efficiency. Moreover, the Ax-Bow, a sharp-edged bow, is employed to improve sea-keeping performance.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 184.75m x 177.00m x 30.60m x 14.50m x 9.55m

| DWT/GT:        |          | 38,200t/23,857              |
|----------------|----------|-----------------------------|
| Cargo hold ca  | apacity: | $46,315.5 \mathrm{m}^3$     |
| (grain)        |          |                             |
| Main engine:   | Hitachi  | -B&W 6S46MC-                |
| C8 diesel 2    | x 1 unit |                             |
| NCR:           | 6,100k   | xW x 107.2min <sup>-1</sup> |
| Speed, servic  | æ:       | about 14.3kt                |
| Classification | ı:       | NK                          |
| Completion:    |          | March 16, 2012              |
| Registry:      |          | Panama                      |
| 2 0            |          |                             |

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#### IHIMU completes Handymax bulk carrier SAN ANTONIO

IHI Marine United Inc. has delivered the Future 56 (F56) type Handymax bulk carrier SAN ANTO-NIO (HN: 3296) to Challenger Inc. at its Yokohama Shipyard on March 29, 2012. SAN ANTONIO is the 50th vessel of the Future 56 series.

The Future 56 was developed for flexible operation in worldwide trades, equipped with five cargo holds and four deck cranes that can load various cargoes such as coal, ore, grain, and steel products etc.

For the sake of superior economical operation in worldwide trades, the vessel has an electronically controlled main engine (Flex Engine). By adjusting fuel injection and exhaust valves at suitable timing, this engine can control combustion conditions regardless of loaded condition. These mechanisms enhance saving of fuel oil consumption and reduction of emissions.

In order to achieve good propulsion performance, economical operation, and good maneuverability, IHI-MU designed

this vessel with its sophisticated technology such as CFD analysis, 3D-FEM ship-model analysis, walkthrough simulation, and apparatus installation simulation utilizing the CIM system "Ajisai" which IHIMU has developed.

Principal particulars;



#### Posidonia 2012 held successfully

The Japan Ship Exporters' Association (JSEA) participated in the 23rd International Shipping Exhibition Posidonia 2012 held at the Metropolitan Expo Centre in Greece, for five days from June 4 to 8. Over 18,547 people visited Posidonia 2012 that attracted 1,870 companies and organizations from 87 countries.

At the opening ceremony held on June 4, Mr. Panagiotis Pikramenos, the Interim Prime Minister of Greece, gave the opening address. After the ceremony, Mr. Ioannis Stournaras, the Minister of Development, Competitiveness and Shipping as well as honorable guests from related circles visited exhibition stands.

The Interim Prime Minister together with the guests was welcome by Mr. Hiroshi Toda, Japanese Ambassador to Greece, Mr. Takao Motoyama, JSEA president, and Mr. Yukinobu Fujimoto, vice-chairman of the Japan Marine Equipment Association (JSMEA) at the Japanese exhibition stands.



Interim Prime Minister Pikramenos (second from right) and Mr. Motoyama (second from left) at Japanese Stand



From left are JSEA President Motoyama, Ambassador Toda, and JSMEA vice-chairman Fujimoto at tape-cut ceremony at Japanese stand.

In the evening on June 6, Japanese Ambassador and Mrs. Toda, and JSEA president and Mrs. Motoyama cosponsored a reception at the Athenaeum Inter-Continental Hotel with about 880 guests including government officials and others concerned with the shipping and shipbuilding industries.

The JSEA consisting of 12 Japanese shipbuilders participated with the financial support of The Nippon Foundation and in cooperation with The Shipbuilders' Association of Japan. JSEA and the JSMEA contributed the national exhibition stand where Japanese shipbuilding technology was presented.

Shipbuilding features of each shipbuilder were demonstrated, and expert attendants from the shipbuilders received visitors to provide further explanations. PR videotapes of 12 firms were digitized for a LCD system with the support of the Nippon Foundation. This collaborative exhibition procedure was a great success in demonstrating the whole shipbuilding industry.

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#### TOM PRICE

Owner: Mitsui O.S.K. Lines Ltd. Builder: Namura Shipbuilding Co., Ltd. Hull No.: 328 Ship type: Ore carrier L (o.a.) x B x D x d: 319.58m x 54.00m x 25.10m x 18.10m DWT/GT: 226,381t/119,446 Main engine: MHI 6UEC85LSII diesel x 1 unit Speed, service: about 15.10kt Classification: NK Complement: 30 Completion: March 16, 2012



### PACIFIC INFINITY

Owner: Primavera Montana S.A. Builder: Oshima Shipbuilding Co., Ltd. Hull No.: 10653 Ship type: Bulk carrier L (o.a.) x B x D x d (ext.): 189.99m x 32.26m x 17.87m x 12.568m (ext.) DWT/GT: 56,104MT/31,804 Main engine: Kawasaki MAN B&W 6S50MC-C (Mark 7) diesel x 1 unit Speed, service: 14.50kt Classification: NK Completion: April 18, 2012 Registry: Panama



#### TAMANACO

Owner: Panavenflot Corp. Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd. Hull No.: 1374 Ship type: Tanker L (o.a.) x B x D: 228.60m x 42.00m x 21.50m DWT/GT: 105,000t/56,000 Main engine: Mitsui MAN B&W 6S60MC-C diesel x 1 unit Speed, service: about 14.8kt Classification: LR Completion: April 3, 2012



# CORAL AMBER

Builder: Shin Kurushima Dockyard Co., Ltd. Hull No.: S-5645 Ship type: Bulk carrier L (o.a.) x B x D x d: 224.98 x 32.26 x 19.85 x 14.328 (ext.) DWT/GT: 78,000t/42,000 Main engine: B&W 6S60MC-C (Mark 7) diesel x 1 unit Speed, service: 14.5kt Registration: Panama Classification: NK Completion: April 11, 2012



# SEA TRIUMPH

Owner: Panamanian Owner Builder: Koyo Dockyard Co., Ltd. Hull No.: S-2362 Ship type: Bulk carrier L (o.a.) x B x D x d (ext.): 291.98m x 45.00m x 24.70m x 18.21m DWT/GT: 181,415MT/92,752 Main engine: Mitsui-MAN B&W 6S70MC-C diesel x 1 unit Speed, service: 15.15knots Classification: NK Completion: February 2, 2012 Registry: Panama



# AROUZU

Builder: Tsuneishi Shipbuilding Co., Ltd. Hull No.: 1526 Ship type: Bulk carrier L (o.a.) x B x D x d: 228.99m x 32.26m x 20.05m x 14.40m DWT/GT: 82,250t/43,013 Main engine: Mitsui MAN B&W 6S60MC-C (Mark 7) diesel x 1 unit Speed, service: 14.5 Classification: NK Completion: March 27, 2012 Registry: Panama

