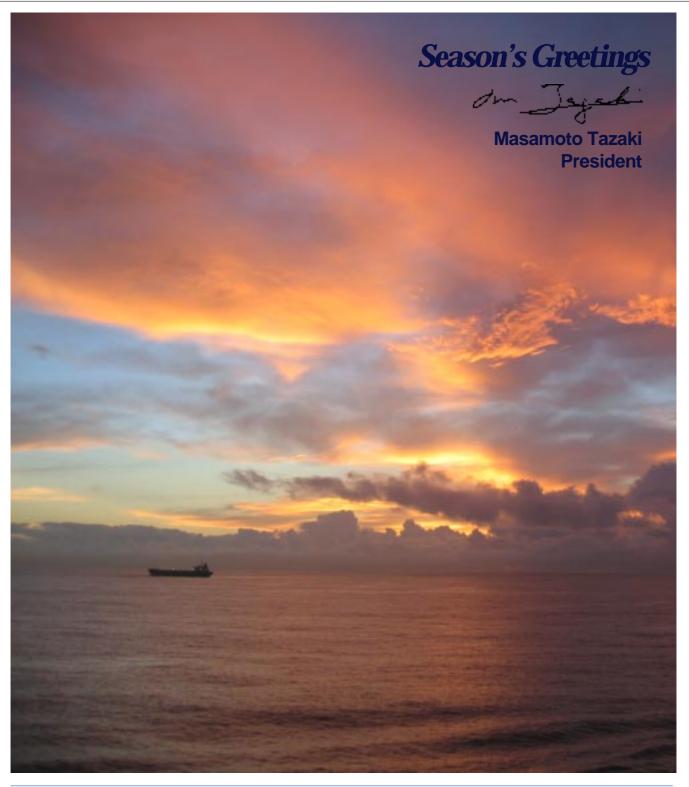


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## IHIMU completes 300,000DWT double-hull VLCC, TSUGARU

IHI Marine United Inc. delivered 300,000 DWT double-hull VLCC, TSUGARU, to Honos Shipping Pte. Ltd. at its Kure Shipyard on Sept. 29, 2010. The TSUGARU was developed with maximum deadweight and maximum draft to pass the Strait of Malacca and has following features:

Superior economical operation is possible in the worldwide trade (Persian Gulf-Far East trade). The arrangement of cargo oil tanks, ballast tanks, and other compartments are optimized, and this enabled the maximum cargo loading capacity despite the shallow draft.

The main engine of the vessel is an electronically controlled Flex Engine to cope with requirements for reducing fuel oil consumption and flexible engine operation during the navigation.

Under any loaded conditions, this

engine can control combustion by suitably adjusting fuel injection and operation of exhaust valves. The engine operation mechanism enhances reduction of fuel oil consumption and

emission of pollutants.

To realize the improved propulsion performance, economical operation, and maneuverability, IHIMU designed the vessel with its sophisticated technology and engineering expertise together with CFD analysis, 3D-FEM ship model analysis utilizing CAD system "Ajisai" that IHIMU originally developed.



Principal particulars

L (o.a.) x B x D x d:333.0m x 60.0m x 29.0m x 20.5m

DWT/GT: About 301,500t/160,145 Main engine: DU-WARTSILA 7RT-

flex 84T-D x 1 unit

MCR: 27,160kW x 74.0rpm Speed, service: 15.55kt Classification: NK Completion: Sept. 29, 2010

# MES completes 9th Malacca Doublemax VLCC, LIBRA TRADER

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed the double hull VLCC, LIBRA TRADER (HN: 1757), and delivered at its Chiba Works to Legend Transport Inc. on Sept. 30, 2010.

The LIBRA TRADER is the 9th ship of the series of Mitsui Malacca Doublemax design VLCC with enhanced transport efficiency.

This ship has the biggest deadweight and cargo hold capacity as Malaccamax type tanker, a ship with maximum draft passable through Malacca Strait maximizing the deadweight tonnage, and can efficiently transport crude oil.

For ocean and global environmental preservation, not only the ship's hull but also the fuel oil tank is double hulled and the pump room is double bottomed. Furthermore, a newly developed energy saving device is installed to improve the propulsion performance, such as navigation speed and fuel oil consumption.

Energy saving is achieved with a newest bow form, stern hull form, and high efficiency propeller with an energy saving device. A turbo generating system is used to recover exhaust gas heat energy from the main engine.

The main engine uses an electronic controlled cylinder oiling system to achieve operational cost saving.

Two sets of Differential Global Positioning System (DGPS) are installed to achieve thorough satellite navigation. The electronic chart display information system (ECDIS) and automatic ship identification system (AIS) are installed to have better navigational planning and safe navigation.

The engine room can continuously be monitored at navigation bridge and engine control room through colored camera installed in the engine room.

This ship has access required by SOLAS for safety and effective inspection in cargo oil tanks and water ballast tanks. The fixed type inflammable gas detection system is installed in the ballast tank and pump room to achieve safer working conditions.

Principal particulars

L (o.a.) x L (b.p) x B x D: 333.00m x 324.00m x 60.00m x 28.80m

DWT/GT: 310,339t/160,149 Cargo tank capacity (100%): 354,689m<sup>3</sup>

Main engine: MITSUI-MAN B&W 7S80MC-C diesel x 1 unit

MCR: 27,160kW x 76rpm
Complement: 40
Classification: NK
Flag: Marshall Islands
Delivery: Sept. 30, 2010



### KHI delivers 145,000m3 LNG carrier, TAITAR NO. 4

Kawasaki Heavy Industries, Ltd. (merged with Kawasaki Shipbuilding Corporation: see P 5 for the merger announcement) delivered the 145,000m³ LNG Carrier, TAITAR NO. 4 (HN: 1626), to NiMiC NO.4 S.A. on October 1. The carrier is the 12th completion of the 145,000m³ capacity series developed by Kawasaki.

The carrier has four MOSS-type independent spherical tanks, which can contain a total of 145,333m³ (-163 degrees C at 98.5%) LNG and uses the Kawasaki panel system for the heat insulation. The system can suppress the boil-off gas rate to about 0.15% per day. The cargo tanks are installed inside the cargo compartment built with double sides and double bottom to ensure safety so that the cargo tanks are not damaged directly.

The wheelhouse is equipped with advanced integrated electronic navigation equipment, which was previously installed separately. This helps further improve ship operation tasks. Windows around the wheelhouse provide a panoramic view of 360 degrees to allow one-man operation during ocean-going navigation.

Cargo-handling operation is carried out at the cargo-handling room located in front of the accommodation quarters, and the Kawasaki IMCS (an integrated monitoring and controlling system) is installed to monitor and control cargo handling operation as

well as monitoring engine conditions. IMCS developed on the operator expertise and is very easy to use.

Principal particulars:

L (o.a.) x L (b.p.) x B x D x d: 289.50m x 277.00m x 49.00m x 27.00m x 11.90m

DWT/GT: 118,634t/77,053 Cargo tank capacity: 145,333m³ (-163 degrees C at 98.5%)

Main engine: Kawasaki UA-400 steam turbine x 1 unit

MCR: 26,900kW x 80rpm
Speed, service: about 19.5kt
Complement: 49
Classification: NK
Delivery: Oct. 1, 2010



## Sanoyas completes Panamax bulk carrier FISKARDO

Sanoyas Hishino Meisho Corp. completed construction of Panamax bulk carrier FISKARDO at the Mizushima Works and Shipyard for the delivery to MANU VICTORY MARITIME S.A. on Sept. 16, 2010. The vessel applies Common Structural Rules (CSR) by International Association of Classification Societies.

The FISKARDO is the 16th of the series of the Sanoyas-developed 83,000DWT type Panamax bulk carriers, featuring the world largest deadweight and cargo hold capacity as

PANAMAX bulk carrier.

To achieve the improved propulsion efficiency, the vessel uses a low-speed and long-stroke main engine combined with a high-efficiency propeller as well as Sanoyas-Tandem-Fin (STF, patented) that can achieve 6% energy saving in maximum. These combination also contribute to reducing  $CO_2$  emission.

Fully widened hatch openings facilitate cargo-handling work. Dedicated fresh water tanks are provided for storing hold-washing water pro-

> duced by a fresh water generator with a large capacity. In addition, special fuel oil heating system is applied to fuel oil storage tanks in order to avoid cargo damage by over-heating and save the

steam consumption.

Various countermeasures to promote the environmental protection are employed. Those include fuel oil tanks of double hull structures, holding tank for accommodation discharges and dirty hold bilge, and independent bilge segregation system for engine room.

Principal particulars

Owner:Manu Victory Maritime S.A. Hull No.: 1284

L (o.a.) x L (b.p.) x B x D x d: 229.00m x 224.00m x 32.24m x 20.20m x 14.598m

DWT/GT: 83,448t/44,348 Cargo hold capacity (grain): 96,121m<sup>3</sup> Main engine: MAN B&W 6S60MC-C diesel x 1 unit

MCR: 10,740kW Speed, service: about 14.0kt (at c.s.o. with 15% sea margin)

Classification: NK
Complement: 25
Port of registry: Panama
Delivery: Sept. 16, 2010



## Oshima completes Ice Class ICE-1A bulker, SANKO ODYSSEY

Oshima Shipbuilding Co., Ltd. delivered the 75,603DWT ICE-1A Panamax bulk carrier SANKO ODYS-SEY, to ODYSSEY BULKSHIP LIMITED on Nov. 16, 2010. The vessel is assigned ICE-1A notation. The SANKO ODYSSEY has the following features for safe navigation in ice according to requirements for the ICE-1A rule.

Features include reinforcement for hull construction, an ice knife provided to protect the rudder against ice pressure, the air bubbling system for antifreezing the ballast water in ballast tanks, increased maximum output of main engine, thicker propeller blade, and ice sea chest with heating pipes.

Several countermeasures are taken for low temperature operation in ice. Design condition for heating of air-conditioning is based on outside air temperature of -25°C. The enclosed bridge wing with independent air conditioning system in wheelhouse, a steam line for deicing of equipment on weather part, and a special material against cold brittleness are used for

main components on the weather deck.

The vessel obtained the Recommendations on Ice Safety (Ice Certificate) issued by Central Marine Research and Design Institute (CNIIMF) indicating the capability of ship

navigation in Russian waters in the Arctic.

The Seaworthy Bow of excellent seaworthiness is also adopted to improve speed performance under the rough weather conditions (about 5% power saving compared with ordinary bulbous bow).

The vessel accomplishes the decrease in the fuel consumption by new optimized hull form, and adoption of a set of the Flipper-Fins increases propulsive efficiency.



Principal Particulars

 $\begin{array}{l} L\,(o.a.)\,x\,L\,(b.p.)\,x\,B\,x\,D\,x\,d;\,225.00m \\ x\,\,220.00m\,\,x\,\,32.26m\,\,x\,\,19.39m\,\,x \\ 14.089m \end{array}$ 

DWT/GT: 75,603t/40,142 Cargo hold capacity: 89,551m³ Main engine: Kawasaki MAN B&W 6S60MC-C diesel x 1unit

MCR: 13,548kW x 105.0rpm Speed, service: 14.5kt Classification: DNV Completion: Nov. 16, 2010

## Universal completes 207,000 DWT Bulk Carrier, KATSURA

Universal Shipbuilding Corporation delivered the KATSURA, a 207,000 DWT bulk carrier, to the owner, at the Tsu Shipyard on Sept. 9, 2010. The vessel is designed to carry bulk coal and iron ore between Asia and Australia more efficiently and have flexibility for port restrictions.

This is the 18th vessel of the new

design series of Newcastle-max that has large cargo hold capacity despite the adoption of the most efficient shallow draft to call at various ports.

The vessel has double side skin construction for cargo holds and fuel oil tanks in order to reduce flooding risk due to side damage. Although the cargo capacity is equivalent to that of

previous single s k i n n e d Newcastle-max series, cargo handling is improved because of the cargo holds bound by a double side skin.

The vessel is equipped high propulsion efficiency and energy saving devices, SSD (Super Stream Duct) and Surf-Bulb (Rudder Fin with Bulb), before and behind the propeller. In addition, the bow above the waterline is shaped as the Ax-Bow that can decrease added wave resistance at sea.

Deck machinery such as windlasses, mooring winches, and hatch covers are driven by electric-motor system for oil leak prevention on deck.

Principal particulars

 $\begin{array}{cc} L\,(\text{o.a.})\,x\,L\,(\text{b.p.})\,x\,B\,x\,D\,x\,d:\,299.7m\,x\\ 290.2m\,x\,50m\,x\,25.0m\,x\,18.2m\\ DWT/GT: & 207,791t/106,333\\ Cargo hold capacity: & 218,790m^3 \end{array}$ 

Main engine: MAN B&W 6S70MC-C

diesel x 1 unit

Speed, service: 14.7kt
Complement: 25
Classification: NK
Completion: Sept. 9, 2010



### Imabari complete 95,790DWT bulk carrier, DOUBLE FORTUNE

Imabari Shipbuilding Co., Ltd. completed construction of the DOUBLE FORTUNE (HN:S-1551), a 95,790DWT bulk carrier, and delivered the vessel to its owner, Catalina Shipping S.A., at the Marugame Headquarters on Sept. 29, 2010.

The vessel is an ocean-going bulk carrier having a single diesel engine and a single screw. It is designed to be suitable for carrying various cargoes including coal, ore, and grains.

The hatch covers are the side rolling type operated by chains and electric motors, and the hatch openings are maximized to facilitate cargo handling.

The vessel has an energy saving device installed at the leading edge of the rudder, which contributes to environment-friendly and economical operation.

 $\begin{array}{l} \text{Principal particulars} \\ \text{L (o.a.) x L (b.p.) x B x D x d: 234.98m} \\ \text{x 227.00m x 38.00m x 19.90m x} \\ \text{14.45m} \end{array}$ 

DWT/GT: 95,790t/50,617 Cargo hold capacity: 109,477m³ Main engine: Mitsui-MAN B&W

 $\begin{array}{ccc} 6S60MC\text{-}C (Mk\ 7) \times 1 \ unit \\ MCR: & 12,950kW \times 101.0 rpm \\ Speed, service: & 15.0 kt \\ Complement: & 25 \\ Classification: & NK \\ Delivery: & Sept.\ 29,\ 2010 \end{array}$ 

## Mitsubishi completes large container carrier, MOL MARVEL

Mitsubishi Heavy Industries, Ltd. (MHI) has completed construction of the MOL MARVEL (HN: 1286), a large container carrier capable of carrying 6,724TEUs, and delivered the carrier to MOL Euro-Orient Shipping S.A. (Mitsui O.S.K. Lines, Ltd. (MOL)) at its Kobe Shipyard & Machinery

Works.

The MOL MARVEL is the sixth of ten vessels ordered by MOL. The vessel adopts superior hull form for saving energy and effective cargo-carrying performance. The vessel also employs tanks for low sulfur fuels and gray water holding, preparation for Al-

ternative Marine Power (AMP) system (on some of her sister vessels), and an electronically controlled main engine (Mitsubishi-Wartsila 10RT-Flex96C) to meet the vessel's environment-friendly

concept.

Furthermore, YP460MPa (47kgf/mm²) higher tensile strength steel, jointly developed by Nippon Steel Corporation and MHI, and additional long tall lashing bridges are first used for this sixth vessel for increased cargo loading flexibility.

Principal particulars

 $\begin{array}{c} L\,(o.a.) \times L\,(b.p.) \times B \times D \times d; \, 312m \times \\ 288.0m \times 43.4m \times 24.8m \times 14.2m \\ DWT/GT; \qquad 79,460t/78,316 \\ Main engine; \, Mitsubishi-Wartsila \\ 10RT-Flex96C \, diesel \times 1 \, unit \end{array}$ 

MCR: 57,200 kW
Speed, service: about 24.5kt
Complement: 30
Classification: NK
Completion: Sept. 3, 2010



#### Kawasaki Heavy Industries merges Kawasaki Shipbuilding

Kawasaki Shipbuilding Corporation was amalgamated with Kawasaki Heavy Industries, Ltd. (KHI) and became Ship & Offshore Structure Company, one of KHI's seven companies on Oct. 1, 2010.

With the merger, Kawasaki believes that the company can bring out and maximize the total strength of the Kawasaki Group by utilizing all the technological assets and human resources of the Group so that the company can serve their customers for

further prosperity and satisfaction.

With the new organization, the company will exert an effort for the further growth of the business, and hopes for the continued support and patronage from previous business partners and customers.

Nobumitsu Kambayashi, Senior Vice President of KHI, has been appointed President of the Ship & Offshore Structure Company.

KHI Head Office



### OCEAN HOPE

Owner: Global Grace S.A.

Builder: The Hakodate Dock Co., Ltd.

Hull No.: 836

Ship Type: Bulk carrier

L (o.a.)  $\times B \times D \times d$ : 175.53m  $\times 29.40$ m

x 13.70 m x 9.640 mDWT/GT: 31,889t/19,801

Main engine: Mitsubishi 6UEC45LSE

diesel x 1 unit Speed, service: 14.4kt Classification: NK Completion: Oct. 22, 2010



### **AZUMASAN**

Owner: Aries Carriers Pte Ltd. Builder: Namura Shipbuilding Co.,

Ltd.

Hull No.: 292

Ship Type: Crude oil carrier (VLCC)  $L(o.a.) \times B \times D \times d: 333.00 \text{m} \times 60.00 \text{m}$ 

x 29.00 m x 20.60 m

DWT/GT: 302,241t/159,943

Main engine: MAN-B&W 7S80MC-C

(Mk8) diesel x 1 unit

Speed, service: about 15.50kt

Classification: NK Complement: 33

Completion: September 1, 2010



#### URAGA PRINCESS

Owner: Prosperity Success S.A. Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.

Hull No.: 1360 Ship type: Tanker

L (o.a.) x B x D: 228.60m x 42.00m x

21.50m

DWT/GT: 105,344t/55,909

Main engine: Mitsui MAN B&W

6S60MC-C diesel x 1 unit Speed, service: About 14.8kt

Classification: LR Completion: July 2, 2010



### FUJI GALAXY

Owner: Alicia Navigation S.A Builder: Shin Kurushima Dockvard

Co., Ltd. Hull No.: 5711

Ship type: Chemical tanker

 $L(o.a.) \times B \times D \times d: 159.03 \text{m} \times 27.1 \text{m} \times d$ 

14.2m x 10.013m

DWT/GT: 26,198t/16,399

Main engine: Kobe Diesel

6UEC45LSE diesel x 1 unit

Speed, service: 15.5kt

Registration: Marshall Islands

Classification: NK

Completion: Aug. 10, 2010



### **MARIPOSA**

Owner: Babochka Maritime Inc. Builder: Onomichi Dockyard Co., Ltd.

Hull No.: 555

Ship type: Product tanker

L (o.a.) x B x D x d (ext.): 182.50m x 32.20m x 18.40m x 12.90m

DWT/GT: 50,000t/28,400

Main engine: MITSUI MAN-B&W

6S50MC diesel x 1 unit Speed, service: 15.4kt Registration: Bahamas Classification: ABS

Completion: Oct. 15, 2010



## An early summer morning



The glow at dawn off the coast of Tubarao, Santa Catarina, Brazil. This photo was taken on board a 230,000DWT ore carrier leaving Tubarao Port for its destination, Villanueva, the Philippines, with full load of iron ore.