



The Ship of the Year 2009 Goes to icebreaker, SHIRASE



The Ship of the Year Award is presented every year by The Japan Society of Naval Architects and Ocean Engineers to one ship excelling technologically, aesthetically and in social significance out of the vessels built in Japan during the past year. This year's award was the 20th of the series.

The disclosure of candidates for The Ship of the Year Award 2009 and the meeting of the selection committee were held on Tuesday, June 8 at Tower Hall Funabori in Edogawa Ward, Tokyo, and the Antarctic observation vessel SHIRASE was selected for the award.

The award was presented on July 20 at Kaiun Club in a joint commendation ceremony of three maritime academic institutions, of which the other two are The Japan

Institute of Marine Engineering (JIME) and The Japan Institute of Navigation (JIN). JIME and JIN respectively gave the Marine Engineering of the Year Award and the Navigation Achievement Prize on that occasion.

The SHIRASE is a state-of-the-art icebreaker, built as the fourth generation vessel to engage in Japan's Antarctic observation project. The vessel combines functions to break ice while navigating the severe environment of the ice-bound Antarctic sea, to carry supplies and fuel totaling more than 1,000 tons in weight, to carry three helicopters and to accomplish various polar observation tasks. Inheriting the experience gained by its predecessors and embodying the latest technology, the SHIRASE is double-hulled for environmental protection and has a water flush-

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ing system and a stainless clad steel-built hull, both intended for improved ice-bound sea navigation. The vessel has increased hull strength, enhanced observation capabilities with a multi-echo sounder among other devices, and equipped for container handling for improved cargo loading/unloading efficiency.

During the 51st voyage to support Antarctic observation (from November 2009 until April 2010), which was its maiden voyage, the SHIRASE fully displayed its designed performance capabilities in spite of the severe environment involving 4 m or even thicker ice, and perfectly accomplished its mission.

Principal Particulars

Name of ship: SHIRASE
 Type of ship: Icebreaker
 Owner of ship: Japanese Ministry of Defense
 Ship builder: Maizuru Shipyard, Universal Shipbuilding Corporation
 L (o.a.) x L (b.p.) x B x D x d: 138.0m x 126.0m x 28.0m x 15.9m x 9.2m
 Gross tonnage: About 18,300
 Propulsion system: Diesel-Electric (PWM inverter)

Propulsion output: 22,065kW
 Speed: 19kt
 Cargo and passenger capacities: 1,100 tons and 80 persons
 Icebreaking capability: 1.5m level ice at continuous 3kt
 Carrier-based helicopter: CH101 x 2, A355 class x 1
 Date, completed: May 20, 2009

Maiden voyage of SHIRASE

The new Japanese icebreaker SHIRASE made her maiden voyage through the Antarctic from November 2009 to April 2010, and accomplished her first mission for Antarctic observation and transportation. The icebreaker had been ordered by the Ministry of Defense from Universal Shipbuilding Corporation and was delivered at Maizuru Shipyard on May 20, 2009.

The icebreaker supports the Japanese Antarctic Research Expedition (JARE) by the transportation of about 1,100 tons of cargo (incl. 600 tons fuel oil) and 80 scientists/observers to Japan's base for Antarctic observation, which is located in Lutzow-Holm

Bay, well-known for very severe ice conditions.

The icebreaker has continuous icebreaking capability of 1.5 m thick ice at 3 knots and ramming icebreaking capability of about 5 m thick ice. To reduce snow resistance, a water flushing system of 260m³/min is equipped at the bow. Newly developed highly anticorrosive stainless cladding steel is applied to the ice belt, which maintains a low friction surface for a long time. The propulsion system consists of four main generator engines, four electric motors with PWM (Pulse Width Modulation) inverter and two fixed pitch propellers.

The icebreaker can carry fifty-six containers (12 feet) and three helicopters for transportation and observation. Some laboratories and research equipment for meteorology, geosciences, oceanography and biology are integrated, and multi-narrow beam sonar (Sea Beam 3020 suitable for ice-bound water) is equipped for profiling the seabed. All fuel oil tanks are protected by the double hull, and waste treatment devices are installed for environment protection.

IHIMU completes 300,000 DWT Double-Hull VLCC, FPMC C INTELLIGENCE

IHI Marine United Inc. delivered 300,000 DWT Double-Hull VLCC, FPMC C INTELLIGENCE, for FPMC C INTELLIGENCE MARINE CORP. at its Kure Shipyard on Apr. 28, 2010.

FPMC C INTELLIGENCE was

developed to have maximum deadweight with maximum draft to pass the Straits of Malacca, and has the following features. Superior economical operation on worldwide trades (Persian Gulf-Far East trade) with optimized arrangement of cargo oil

tanks, ballast tanks and other compartments resulting in maximum cargo loading capacity at shallow draft condition. In order to realize superior propulsion performance, economical operation and good

maneuverability of the ship, IHIMU designed the ship with its sophisticated technology/engineering, CFD analysis, 3D-FEM ship model analysis, walk-through simulation and apparatus hull-block installation simulation utilizing CIM system "Ajisai", which IHIMU developed.

Principal particulars:

L (o.a.) x B x D x d: 333.0m x 60.0m x 29.0m x 20.6m
 DWT/GT: Approx.302,000t/159,869
 Main engine: DU-WARTSILA 7RTA84TB diesel x 1 unit
 MCR: 27,160kW x 74.0rpm
 Service speed: 15.70kt
 Classification: ABS
 Completion: Apr. 28, 2010



MES delivers world biggest class double hull VLCC KAZUSA

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed and delivered a double hull VLCC MV KAZUSA (HN: 1742) at its Chiba Works to Sammy Shipping Corporation, Liberia, on May 21, 2010.

The KAZUSA is the 8th ship in the series of Mitsui Malacca Doublemax design VLCC with enhanced transport efficiency.

This ship has the biggest deadweight and cargo hold capacity for the Malacca-max type tanker and is able to efficiently transport crude oil with a specific gravity of frequently loaded oil.

For ocean and global environmental preservation, the double hull system is applied not only to the ship's hull but also to the fuel oil tank and bottom of the pump room of the ship. Furthermore, newly developed fuel saving equipment is installed to improve the propulsion performance, such as navigational speed and fuel oil consumption.

A double hull construction is

adopted for the fuel oil tank and pump room bottom to prevent marine pollution. A fixed type inflammable gas detection system is installed to the ballast tank and pump room to achieve safer working conditions. Employment of the latest bow and stern hull forms, high efficiency propeller, and other energy saving devices help reduce energy consumption, together with a turbo generating system to recover exhaust gas from the main engine. The main engine uses an electronic controlled cylinder oiling system to save operational cost. For better safety, engine room is monitored from navigation bridge and engine control room by color camera.

Two sets of Differential Global Positioning System (DGPS) are in-



stalled, which allows satellite navigation. The electronic chart display information system (ECDIS) and automatic ship identification system (AIS) are installed to achieve better navigational planning and safer navigation. This ship has means of access required by SOLAS for safety and effective inspection in cargo oil tanks and water ballast tanks. Accommodation for 40 persons is secured considering a possibility of boarding 10 trainees.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 333.0m x 324.00m x 60.00m x 28.80m

DWT/GT: 310,406t/160,151

Cargo tank capacity (100%):

354,689m³

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

MCO: 27,160kW x 76rpm

Complement: 40

Classification: NK

Date, delivered: May 21, 2010

Naikai Zosen completes 2,450TEU container carrier, GSL AFRICA

Naikai Zosen Corporation has completed construction of the container carrier, GSL AFRICA, for Fortune Line Inc. at the Setoda Shipyard. The carrier can exclusively transport 2,450 TEU containers including 250 reefer containers.

The cargo hold consists of six compartments, and ten hatch openings are provided. Each container holds uses the full cell guide system. Three deck cranes installed on the upper

deck facilitate cargo-handling activity even if a calling port has insufficient equipment for cargo handling.

The super long-stroke type main diesel engine of the Hitachi Zosen MAN B&W 7S70MC-C is used for reduced fuel oil consumption, and the energy-saving hull form is adopted. This combined effect help achieve the improved ship propulsion efficiency.

Safe ship operation at a port, or during navigation, is ensured with a bow thruster for easier berthing and unberthing, auto-heeling control equipment for safe cargo handling, and a collision avoidance-assisting unit.



Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 199.93m x 188.00m x 32.20m x 16.60m x 9.80m

DWT/GT: 32,906t/27,213

Complement: 26

Main engine: MAN B&W 7S70MC-C diesel x 1 unit

MCR: 21,735kW x 91min⁻¹

NCR: 19,560kW x 88min⁻¹

Speed, max.: about 24.353kt

Speed, service: about 22.2kt

Classification: NK

Registration: Liberia

Completion: Apr. 27, 2010

Kawasaki completes 180,000DWT bulker, CAPE TSUBAKI, for "K" Line

The CAPE TSUBAKI, an 182,718 DWT bulk carrier, was completed at the Sakaide Shipyard of Kawasaki Shipbuilding Corporation for the owner, Kawasaki Kisen Kaisha, Ltd., on June 29.

The vessel is the fourth of the most advanced 180,000DWT bulk carrier series developed by Kawasaki. The cargo loading capacity is maximized within the allowable ship size to enter the Port of Dunkerque, France. To meet the requirements for safe, economical, and eco-friendly operation, the CAPE CANARY adopts the Common Structural Rule (CSR) of hull structural strength required for bulk carriers to increase safety of the vessel.

Fuel oil tanks are double hull construction, and deck machinery is directly operated by electric power dispensing with hydraulic oil. Therefore, possibility of accidental marine pollution is decreased in the event of collision or damage. The Performance

Standard for Protective Coatings (PSPC) is also applied for the improvement of quality of coatings, which provides preventive measures against corrosion of ballast water tanks.

The vessel uses a fuel-saving main diesel engine, which is combined with a highly efficient propeller Kawasaki SDS-F (Semi-Duct System with contra Fins), and Kawasaki RBS-F (Rudder Bulb System with Fins). With the increased propulsion efficiency, the fuel consumption of the main engine is drastically decreased.

Principal particulars
 Owner: Kawasaki Kisen Kaisha, Ltd.
 "K" Line
 Builder: Kawasaki Shipbuilding Corporation



Hull No.:	1635
Ship type:	Bulk carrier
Length, o.a.:	292.00m
Length, b.p.:	288.00m
Breadth, mld.:	45.00m
Depth, mld.:	24.70m
Draught, mld.:	18.20m (full load, summer)
DWT/GT:	182,718t/92,977
Main engine:	Kawasaki-MAN B&W 6S70MC-C (Mk7) diesel x 1 unit
MCR:	17,780kW x 87rpm
Speed, service:	about 15.3kt
Classification:	NK
Delivery:	June 29, 2010

MHI completes 2,000-car roll on/off vehicle carrier, TRANS FUTURE 8

The roll on/off type vehicle carrier TRANS FUTURE 8 was built at Shimonoseki Shipyard & Machinery Works of Mitsubishi Heavy Industries, LTD. and delivered to Feng Li Maritime Corporation on May 21, 2010.

The vessel has eight car decks including one liftable deck available for the carriage of 2,021 cars (Toyota Crown) at maximum. The main loading deck (No.4 deck) is designed to load

heavy cargoes such as dump trucks, busses, forklifts, backhoes, lumbers and MDFs (Medium Density Fiberboards).

The triple hull construction is applied to the fuel oil tanks in order to reduce the risk of oil pollution in case of damage. The vessel is equipped with ballast water treatment units in order to keep marine ecology ahead of enforcement of the International Convention for the Control and Man-

agement of Ship's Ballast Water and Sediments.

The main engine is the Mitsubishi UE type with the ECL (Electronically Controlled Lubricating) system, which reduces fuel oil and lubricating oil consumption and NO_x emission. The vessel has a steel windscreen in front of the superstructure in order to reduce wind resistance.

Principal particulars

Length, o.a.:	165.00m
Length, b.p.:	157.00m
Breadth, mld.:	27.60m
Depth, mld.:	24.15m (at No.8 deck)
Draught, mld.:	6.50m
DWT/GT:	6,220t/28,755
Car loading capacity:	Toyota Crown 2,021 units
Main engine:	Mitsubishi-UE 7UEC52LSE diesel x 1 unit
M.R.:	11,935kW x 127min ⁻¹
Speed, service:	21.0kt
Flag:	Panama
Classification:	NK, NS* (RORO, EQ CV & DG), MNS* (M0)



Oshima completes OS-MAX60, the World's largest Handymax bulker, DUBAI SUN

Oshima Shipbuilding Co., Ltd. delivered the 61,344DWT type DUBAI SUN, the first vessel of OS-MAX60 series, to SUN MARITIME INC. on Apr. 15, 2010. OS-MAX60 is newly developed by Oshima and has the world's largest deadweight of the Handymax bulk carrier with shallow draft of 12.8m. In spite of the large deadweight, the vessel accomplishes decreased fuel consumption based on the new optimized hull form and adoption of a set of Flipper-Fins increases propulsive efficiency.

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

The vessel includes environment protections such as complying with the IMO regulation-fuel oil tank protection and equipped with tanks for exclusive use of the low sulfur fuel oil. Additionally, the vessel is the world's first vessel assigned Class NK's "En-



vironmental Awareness" notation, EA for new vessels.

For effective cargo loading/unloading, the vessel has wide hatch openings on the five (5) cargo holds, high performance jib cranes (capacity: 30MT, hoisting speed: 25m/min.). The vessel also has the IBS Console (Integrated navigation Bridge System Console) and monitoring camera on the foremast to increase safety of navigation.

Principal Particulars

L (o.a.) x L (b.p.) x B x D x d:	199.98m x 196.00m x 32.26m x 18.33m x 12.82m
DWT/GT:	61,344t/33,988
Loading capacity:	76,913m ³
Main engine:	Kawasaki MAN B&W 6S50MC-C diesel x 1 unit
MCR:	8,201kW x 110.0rpm
Speed, service:	14.5kt
Classification:	NK
Completion:	Apr. 15, 2010

Universal completes 207,000 DWT bulk carrier, HYUNDAI FRONTIER

Universal Shipbuilding Corporation delivered the HYUNDAI FRONTIER, a 207,000 DWT Bulk Carrier, at the Tsu shipyard on May 25, 2010. The vessel is designed to carry bulk coal and iron ore between Asia and Australia more efficiently and to have flexibility for port restrictions.

This is the 15th vessel of a new design series of Newcastle-max that is

not only the most efficient for shallow draft but also has large cargo hold capacity. The vessel has the double side skin construction for cargo holds in order to reduce flooding risk due to side damage and improve cargo handling. In spite of having cargo holds bound by a double side skin, the cargo capacity is equivalent to that of the previous single skinned Newcastle-max series.

The vessel is equipped with high propulsion efficiency and energy saving devices, SSD (Super Stream Duct) and Surf-Bulb (Rudder Fin with Bulb) in front of and behind the

propeller, respectively.

In addition, the bow above the waterline is shaped as the Ax-Bow that can decrease added wave resistance at sea.

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

Principal particulars

L (o.a.) x L (b.q.) x B x D x d:	299.7m x 290.2m x 50m x 25.0m x 18.2m
DWT/GT:	207,945t/106,367
Loading capacity:	218,790m ³
Main engine:	MAN B&W 6S70MC-C diesel x 1 unit
Sea Speed:	14.7kt
Complement:	25
Classification:	NK
Completion:	May 25, 2010



FIRST EAGLE

Owner: Panamanian owner
 Builder: Imabari Shipbuilding Co., Ltd. (Saijo Shipyard)
 Hull No.: 8079
 Ship type: Bulk carrier
 L (o.a.) x L (b.p.) x B x D x d: 288.93m x 280.80m x 45.00m x 24.70m x 18.151m
 DWT/GT: 180,199t/90,111
 Main engine: MAN B&W 6S70MC-C diesel x 1 unit
 MCR: 18,630kW x 91.0rpm
 Speed, service: 15.35kt
 Classification: NK
 Completion: Apr. 19, 2010

**KING ORE**

Owner: Southern Route Maritime, S.A.
 Builder: Namura Shipbuilding Co., Ltd.
 Hull No.: 309
 Ship type: Bulk carrier
 L (o.a.) x B x D x d: 288.97m x 45.00m x 24.40m x 17.93m
 DWT/GT: 176,944t/89,605
 Main engine: MAN-B&W 6S70MC (Mk6) diesel x 1 unit
 Speed, service: abt. 14.60kt
 Classification: NK
 Complement: 25
 Completion: May 10, 2010

**CLIPPER HOPE**

Owner: Bulk Shipinvest I Ltd.
 Builder: The Hakodate Dock Co., Ltd.
 Hull No.: 832
 Ship Type: Bulk carrier
 L (o.a.) x B x D x d: 175.50m x 29.40m x 13.70m x 9.640m
 DWT/GT: 31,883t/19,831
 Main engine: Mitsubishi-6UEC45LSE diesel x 1 unit
 Service Speed: 14.4kt
 Registration: Bahama
 Classification: ABS
 Completion: Mar. 8, 2010

**ALSTROEMERIA**

Owner: Cygnet Bulk Carriers S.A.
 Builder: Sanoyas Hishino Meisho Corp.
 Hull No.: 1267
 Ship type: Woodchip carrier
 L (o.a.) x L (b.p.) x B x D x d: 209.99m x 204.00m x 37.00m x 22.85m x 12.029m
 DWT/GT: 64,500mt/49,720
 Cargo hold capacity: 123,618m³
 Main engine: MAN B&W 6S50MC-C diesel x 1 unit
 Speed, service: about 14.6kt
 Registration: Panama
 Classification: NK
 Completion: June 2, 2010

**SAPPORO PRINCESS**

Owner: Prosperity Faith S.A.
 Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
 Hull No.: 1356
 Ship type: Tanker
 L (o.a.) x B x D: 228.60m x 42.00m x 21.50m
 DWT/GT: 105,354t/55,909
 Main engine: Mitsui MAN B&W 6S60MC-C diesel x 1 unit
 Speed, service: About 14.8kt
 Classification: LR
 Completion: April 14, 2010

**MERCURY LEADER**

Owner: Yamabiko Shipholding S.A.
 Builder: Shin Kurushima Dockyard Co., Ltd.
 Hull No.: 5522
 Ship type: Car carrier
 L (o.a.) x B x D x d: 186.03m x 28.20m x 29.43m x 7.40/8.50m
 DWT/GT: 15,045t/42,487
 Main engine: B&W 8S50MC (Mk 6) diesel x 1 unit
 Speed, service: 19.2kt
 Registration: Panama
 Classification: NK
 Completion: June 18, 2010

