



TØNSBERG receives The Ship of The Year Award 2011



The 22nd Ship of the Year Award for 2011 went to the large RO/RO cargoship TØNSBERG, and small ship class prizes were given to the coastal cargoship YONE MARU, and the high-speed ferry 'awaline KIRARA.' The 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.

The award ceremony took place at the Nippon Kaiun Club in Tokyo on July 25, 2012. The ceremony was held jointly with two other institutes, The Japan Institute of Marine Engineering (JIME) and The Japan Institute of Navigation. The Marine Engineering of the Year Award and the Navigation Achievement Prize were also awarded to the respective winners.

The TØNSBERG vessel is the world's largest RO/RO cargoship capable of carrying high and heavy cargoes that include construction machinery, plant modules, railcars, etc. The cargoes are efficiently accommodated by the roll-

on and roll-off system onto nine cargo decks, three of which are elevating decks driven by electric winches. A 12m wide aft ramp is provided, which can carry loads of up to 505 tons, and the vessel can call at ports without adequate cargo-handling facilities. The ballast water treatment system, electronically controlled main diesel engine, and waste-heat recovery system are adopted for environmental protection. The vessel was highly evaluated for incorporating the most advanced ship design and technologies.

Ship name:	TØNSBERG
Ship type:	RORO (Roll-on/Roll-off) cargoship
Ship Owner:	Wilhelmsen Lines Shipowning Malta Ltd.
Shipbuilder:	Mitsubishi Heavy Industries, Ltd.
Completion:	March 18, 2011
Lpp x B x D x d:	250m x 32.26m x 33.22m x 11.0m
Gross tonnage:	74,622
Ship speed:	about 20.25kt
Main engine:	MAN B&W 7L70ME-C8 diesel engine
Output:	20,100kW



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IHIMU completes 8,600TEU container carrier HELSINKI BRIDGE

IHI Marine United Inc. has delivered the 8,600TEU container carrier **HELSINKI BRIDGE** (Hull No. 3287) to Daisy Ship Holding S.A. at its Kure Shipyard. The **HELSINKI BRIDGE** is one of the largest class of container carrier, and IHIMU's sophisticated shipbuilding technology and experience were exploited for this carrier.

For economical operation on container trades, an electronically controlled main engine is installed on the carrier. To achieve more optimum operation, the latest systems such as the turbo charger cut-off system and inverter-controlled cooling seawater pump are applied. These systems contribute to reduction of both fuel oil consumption and gas emissions.

Good propulsion performance and good maneuverability are achieved with the latest technology of IHIMU,

which includes CFD analysis, 3D-FEM ship-model analysis, walk-through simulation, and apparatus installation simulation utilizing the CIM system "Ajisai."

Principal particulars:
L (o.a.) x B x D: about 334.55m x 45.60m x 24.40m

DWT/GT: about 97,000t/97,000
Loading capacity: 8,600TEUs
Main engine: MAN B&W 9K98ME
Mark VI diesel x 1 unit
MCR: 51,480kW x 94.0rpm
Classification: NK
Completion: April 27, 2012



MES develops world's 1st integrated EGR system for marine diesel engines meeting the IMO Tier III NO_x emission requirements

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has recently confirmed that its large size low speed marine diesel engine can meet the IMO's forthcoming Tier III NO_x emission requirements based on the world's first integrated Exhaust Gas Recirculation (EGR) System.

The International Maritime Orga-

nization (IMO) has been strengthening its regulations on marine environment more and more recently. The emission of NO_x by ships should be lower than 17g/kWh in the first regulation of 2000, 14.4 g/kWh in the second regulation of 2011 and will be lower than 3.4 g/kWh in the tertiary regulation of 2016, which is 80% less than that of the first regulation in a specific sea area. MES has developed various technologies for environmental control including NO_x emission control and has carried out confirmation tests using one of the world's largest test diesel engines installed in the machinery factory of Tamano Works in 2010.

The EGR devel-

oped by MES, which recently cleared the IMO's NO_x Tier III requirements, is a system to reduce NO_x emission by lowering peak combustion gas temperature by re-circulating a part of engine exhaust gas to the engine. The most distinctive feature of this system is this is the world's first integrated type with the engine. By integration of the entire EGR system into one unit, the compact design entails only minor changes to the engine outline compared with other NO_x emission control systems, thus necessitating the least design modification of an engine room.

MES, as a leading manufacturer of large size low speed marine diesel engines in Japan, is developing technologies for NO_x emission control as well as for reduction of CO₂ emission (energy saving technology). MES is committed to satisfy the various needs of the customers in the future with a wide range of products including the gas burning engine (ME-GI) which is also a well-established technology of MES.



MHI completes RoPax ferry SUZURAN for Shin Nihonkai Ferry

Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of SUZURAN (HN:2276), a high-speed RoPax ferry and delivered the vessel to Shin Nihonkai Ferry Co., Ltd. at the Nagasaki Shipyard & Machinery Works on June 14, 2012. The ferry is the sister vessel of the HAMANASU and AKASHIA.



The vessel is equipped with the CRP POD system, which achieves an extremely low fuel consumption compared with ordinary RoPax ferries. In addition, this vessel also has a steam turbine generator as a waste heat recovery system so that additional energy saving can be achieved. The passenger facilities of this vessel are designed to provide a great deal of private space for each passenger. For example, the economy class passenger compartment consists of vertically interlocked individual spaces with berths.

Principal Particulars

Length (o.a.):	224.5m
Length (b.p.):	207.72m
Breadth:	26.0m
Depth:	10.0m (2nd Deck)
Design draft:	7.4m
Gross tonnage:	34,400 (International) 17,400 (JG)
Main propulsion system:	Main engine 8,700kW x 2 units
Pod system:	12.9MW x 1 unit
Speed, service:	27.5kt (Trial max. 30.1kn)
Cruising range:	Approx. 3,300n.m.
Lane meter:	2,000 m for Trailers, 300 m for private cars
Complement	
Passenger:	613 persons
Crew:	53 persons
Classification:	JG

Sanoyas completes 120-type Handy Cape bulker JUBILANT TREASURE

Sanoyas Shipbuilding Corp. delivered the 120-type Handy Cape bulk carrier JUBILANT TREASURE constructed at Sanoyas Mizushima Shipyard to the owner Ever Bright Shipping, S.A. on May 23, 2012. The vessel is the 6th newbuilding of the 120,000DWT type Handy Cape bulk carrier series.

This advanced new 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 will clear the restrictions of some ports for large bulk carriers and has been named "Handy Cape" because of the highest flexibility among Cape size bulk carrier.

To improve propulsion efficiency, the vessel uses a low-speed and long-stroke main engine combined with a high-efficiency propeller together with 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 CO₂ emissions.

This vessel complies with the Common Structural Rules (CSR) of the

International Association of Classification Societies. Various countermeasures for protection of the environment are incorporated, which include fuel oil tanks of double hull structures, holding tank for accommodation discharges, and dirty hold bilge and independent bilge segregation systems for the engine room.

The widest possible openings are provided for the No. 1 to No. 7 cargo holds in the same sizes, which facilitate cargo handling. The vessel has dedicated fresh water tanks for storing hold-washing water generated by a large capacity type fresh water generator. In addition, the special fuel oil heating system installed in the fuel oil storage tanks helps to avoid cargo damage by over-heating, and saves steam consumption.

Wooden furniture in the accommodation increases comfort of the officers and crews on board, and safe maneuverability is

achieved with the shipshape arrangement and rear visibility of the wheelhouse.

Principal particulars

Ship No.:	1306
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
DWT/GT:	119,454mt/64,647
Cargo hold capacity (grain):	135,717m ³
Main engine:	MAN B&W 6S60MC-C diesel x 1 unit
MCR:	13,560kW
Speed, service:	about 14.6kt (at c.s.o. with 15% sea margin)
Classification:	NK
Registry:	Panama
Complement:	25
Delivery:	May 23, 2012



JUPITER SPIRIT cuts 3% energy consumption with STEP in waves verified in actual navigation

Naikai Zosen Corporation has proved its STEP, an energy-saving device for ships, has the energy saving effect of 3% in actual navigation. The STEP (Spray TEaring Plate) was fixed on the bow of the JUPITER SPIRIT, a 45,961GT pure car and truck carrier, constructed for Nissan Motor Car Carrier Co., Ltd. at the Naikai's Setoda Works in June last year. Since then data acquisition for energy saving has been continued.

The STEP is an energy-saving device of a pair of plates attached to both sides of the bow above the waterline. The STEP is effective to reduce the wave resistance on the hull. Consequently, the fuel consumption can be improved without losing ship speed due to wave resistance. In water tank tests, the device was estimated to decrease the wave resistance by about 18% under the wave conditions and to reduce the energy consumption by about 2% under head waves of Beaufort scale 6.

Nippon Kaiji Kyokai (Class NK) has acknowledged these results with a highly accurate evaluation method combining water tank tests and theoretical calculations, which is called SPICA (Ship Performance Index Calculation Program), and the STEP has

acquired the Class NK's appraisal of the 10 Mode Performance Index for Ships. The JUPITER SPIRIT has also acquired Class NK's appraisal of the 10 Mode Performance Index for Ships after actual ship operation for about one year.

The energy consumption of this vessel was compared with ship operation data obtained from a similar car carrier without the STEP, which was built in the same period. The comparison was carried out using sample data referring to design conditions of The STEP, which include full load condition in summer, head wave angle range within +/- 90 degrees, and significant wave height of 3 m. As a result, about 3% decrease in energy consumption was proved under the conditions of 2 m or more high waves, which exceed the STEP.

Principal particulars

Length, o.a.:	83.00m
Length, b.p.:	170.00m
Breadth, mld.:	30.20m



Depth, mld.:	28.80m at upper deck
Draught, mld.:	8.45m
GT:	45,961
Car carrying capacity:	5,000 units (Car size; 4.125m (L) x 1.550m (W) x 1.420m (H))
Main engine:	Hitachi-MAN B&W 6S60MC-C diesel x 1 unit
MCR:	12,210kW x 105min ⁻¹
Speed, service:	about 19.0kt
Classification:	NK
Completion:	June 30, 2011

Imabari completes 95,671DWT bulk carrier SARGAM

Imabari Shipbuilding Co., Ltd. completed construction of SARGAM (HN: S-1580), a 95,671DWT bulk carrier, and delivered the vessel at the Marugame Headquarters on May 8, 2012. The vessel is an ocean going bulk

carrier driven by a diesel engine with a single screw and suitable for carrying coal, ore, and grain cargoes.

The hatch covers of the vessel are the side rolling type operated by electric motors and chain drive systems.

The hatch openings are wide to facilitate cargo-handling operations.

The vessel uses the leading edge rudder as an energy-saving device which contributes to envi-

ronment-friendly as well as economical operations.

Principal particulars

Length, o.a.:	234.98m
Length, b.p.:	227.00m
Breadth, mld.:	38.00m
Depth, mld.:	19.90m
Draught, mld.:	14.45m
DWT/GT:	95,671t/50,624
Loading capacity:	109,477m ³
Main engine:	Mitsui-MAN B&W 6S60MC-C (Mark 7) diesel x 1 unit
MCR:	12,950kW x 101.0rpm
Speed, service:	about 15.2kt
Complement:	28
Classification:	NK
Delivery:	May 8, 2012



Universal completes 205,000DWT bulk carrier FPMC B JUSTICE

Universal Shipbuilding Corporation delivered the FPMC B JUSTICE, a 205,000DWT bulk carrier, to FPMC Justice Marine Corp. at the Tsu Shipyard on March 29, 2012. The vessel is designed to carry coal and iron ore between Asia and Australia more efficiently and to provide flexibility for port restrictions. This is the 23rd 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 uses double side skin construction for cargo holds to reduce flooding risk due to side damage and improved cargo handling. In spite of the cargo holds with a double side skin, the cargo capacity is equivalent to that of 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. In addition, the



bow above the waterline uses the Ax-Bow design that can decrease added wave resistance at sea. Deck machinery such as windlasses and mooring winches and hatch covers are driven by an electric-motor system for oil leak prevention on the deck.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 299.7m x

290.2m x 50m x 25.0m x 18.2m
 DWT/GT: 206,649MT/106,385
 Loading Capacity: 218,684m³
 Main engine: MAN B&W 7S65ME-C
 diesel x 1 unit
 Speed: 14.7kt
 Complement: 24
 Classification: BV
 Completion: March 29, 2012

Namura completes 115,000DWT product oil carrier FS ENDEAVOR

Namura Shipbuilding Co., Ltd. delivered the 115,626DWT product oil carrier FS ENDEAVOR to J&K Shipping Company Limited at its Imari Shipyard & Works on June 6, 2012.

This is the second vessel of the class of 115,000DWT-type product oil carriers, which has been developed as the new generation of double hull Aframax tanker series. Namura has

drastically reviewed and modified the specifications by improving those of the existing 105,000DWT-type product oil carriers.

The vessel has three sets of adequate capacity cargo pumps with self-stripping systems and can load three different grades of cargoes. Hull construction is designed and constructed in accordance with the Common

Structural Rules (CSR). Pure epoxy coating is applied to the cargo oil tanks and cargo piping to prevent cargoes from being contaminated by rust. Radar-type tank level gauges are equipped for the cargo oil tanks, slop tanks and residual slop tank. The vapor emission control system (VECS) is used in compliance with USCG/CFR 46 Part 39. The Namura flow Control Fin (NCF) is provided as an energy saving device.

Principal particulars

L (o.a.) x L (b.p.) x B (mld) x D (mld) x d (mld): 249.97m x 241.00m x 44.00m x 21.20m x 14.80m
 DWT/GT: 115,626t/63,058
 Main engine: MAN B&W 6S60MC-C (Mark 7) diesel x 1 set
 M.C.O.: 13,560kW x 105.0min⁻¹
 Speed, service: 15.2kt
 Complement: 25 + 4 (workers)
 Classification: ABS
 Flag: Hong Kong



TWINLUCK SW

Owner: Fortunate Maritime S.A.,
Panama
Builder: The Hakodate Dock Co., Ltd.
Hull No.: 847
Ship type: Bulk carrier
L(o.a.) x B x D x d: 175.53m x 29.40m
x 13.70m x 9.64m
DWT/GT: 31,877t/19,817
Main engine: Mitsubishi-
6UEC45LSE diesel x 1 unit
Speed, service: 14.6kt
Classification: NK
Complements: 24
Completion: June 20, 2012

**FEDERAL SATSUKI**

Owner: Federal Oceans Ltd.
Builder: Oshima Shipbuilding Co.,
Ltd.
Hull No.: 10582
Ship type: Bulk carrier
L (o.a.) x B x D x d(ext.): 199.98m x
23.762m x 14.85m x 10.849m
DWT/GT: 35,885MT/20465
Main engine: KAWASAKI MAN
B&W 6S46MC-C7 diesel x 1 unit
Speed, service: 14.0kt
Registration: Marshall Island
Classification: DNV
Completion: May 24, 2012

**NORDROSE**

Owner: Nordrose Navigation Com-
pany Limited
Builder: Sumitomo Heavy Industries
Marine & Engineering Co., Ltd.
Hull No.: 1365
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: May 18, 2012

**ZAO GALAXY**

Builder: Shin Kurushima Dockyard
Co., Ltd.
Hull No.: S-5717
Ship type: Chemical tanker
L (o.a.) x B x D x d(ext.): 159.03m x
27.10m x 14.20m x 10.025m
DWT/GT: 26,198 / 16,408
Main engine: 6UEC45LSE diesel x 1
unit
Registration: Marshall Island
Classification: NK
Completion: June 19, 2012

**K. VICTORY**

Owner: DAVID A Shipholding S.A.
Builder: Sasebo Heavy Industries Co.,
Ltd.
Hull No.: S776
Ship type: Bulk carrier
L (o.a.) x B x D x d: 292m x 45.00m x
24.70m x 18.15m
DWT/GT: 181,500t/93,383
Main engine: MAN B&W 6S70MC-
C7 diesel x 1 unit
Speed, service: 15.3kt
Registration: Panama
Classification: NK
Completion: July 10, 2012

**TRANS OCEANIC**

Builder: Tsuneishi Shipbuilding Co.,
Ltd.
Hull No.: 1532
Ship type: Bulk carrier
L (o.a.) x B x D x d: 189.99m x 32.26m
x 18.00m x 12.80m
DWT/GT: 58,168t/32,309
Main engine: MITSUI MAN B&W
6S50MC-C diesel x 1 unit
Speed, service: 14.5
Registration: Panama
Classification: NK
Completion: June 6, 2012

