

## JFE Group Overview

# Japan Marine United

## Rapidly Achieving Benefits of Integration to Secure Leading Position and Continuing Growth

Japan Marine United Corporation (JMU) was established in January 2013 through the merger of Universal Shipbuilding Corporation and IHI Marine United Inc.

The merger is enabling JMU to leverage substantial corporate resources realized by combining the two former companies' strengths in engineering and technological development, as well as broader marketing capabilities and facilities capable of handling large projects.

Making use of these competencies, JMU is expanding its product lineup while remaining in the technological forefront in energy saving and environmental load reduction, working to realize marine vessels of superior performance and quality that satisfy customer needs in a timely manner.



**Shinjiro Mishima**  
President & CEO

## Fiscal 2013 Highlights

### April 2013

- JMU launched "The Integration 2013" companywide initiative to mark the first year of the merger

### June 2013

- JMU, IHI Corporation and JGC Corporation decided to jointly invest in Brazilian shipbuilder Estaleiro Atlantico Sul S.A.

### July 2013

- Fukushima Kizuna* offshore substa-

tion built for the Floating Offshore Wind Farm Demonstration and Research Project was completed at the Isogo Works and towed into the ocean off Fukushima

- SHOYOH 97BC*, JMU's first Eco-Ship was delivered at the Kure Shipyard

### August 2013

- CAPE GREEN 209BC*, JMU's first G-series bulk carrier was delivered at the Ariake Shipyard

- IZUMO*, one of Japan's largest helicopter destroyers, was christened and launched at the Isogo Works

### JMU Eco-Ships, Full Steam Ahead!

*SHOYOH* is a 97,000 DWT eco-type coal carrier, the first of three sister ships. Supported by such energy-saving technologies as contra-rotating propellers (CRP) and power turbine generator systems that reuse exhaust gas, *SHOYOH* achieves a 16% improvement in fuel efficiency over conventional vessels.

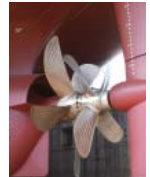
*CAPE GREEN* is JMU's first G-series bulk carrier, having 209,000 DWT. Her unique shape of accommodation reduces wind resistance, and her Sea-Navi® system provides optimum routing and monitoring. *CAPE GREEN* is the first vessel to incorporate a sophisticated heat-recovery system that integrates turbo-charger generator and steam-turbine generator. Thanks to these and other features, *CAPE GREEN*'s greenhouse gas emissions are 25% lower and her fuel efficiency is 20% higher compared to conventional vessels.



*CAPE GREEN*



*SHOYOH*



Contra-rotating propellers

### IZUMO, Japan's Largest-class DDH, Launched

*IZUMO*, a helicopter destroyer (DDH) from in the FY2010 plan of Japan's Ministry of Defense is being built in JMU's Yokohama Shipyard Isogo Works, was christened and launched in August 2013. The vessel is one of the Japan's largest naval ships of its kind.



The launching ceremony for the *IZUMO*

### Floating Offshore Wind Farm Launched to Sea Off Fukushima Prefecture

JMU constructed, towed and installed a 25 MVA floating substation as a participant in the first phase of the Floating Offshore Wind Farm Demonstration and Research Project. The initiative is part of a rehabilitation project for Fukushima Prefecture, administered by Japan's Ministry of Economy, Trade and Industry. The floating substation, named *FUKUSHIMA KIZUNA*, entered verification trials in November 2013.



The offshore substation being towed into position

### Multiple Orders Received for Strategic Products

JMU has successfully secured orders for car carriers and Large LNG carriers, which JMU has targeted as strategic products. The car carriers, with state-of-art technologies, satisfy both enhancing the capacity up to 7,500 units and reduction of fuel consumption. To meet the customer's special needs, JMU implemented innovative measures to minimize greenhouse gas emissions, not only CO<sub>2</sub> but also NO<sub>x</sub> and SO<sub>x</sub>. Such challenging specifications were achieved by incorporating cutting-edge environmentally friendly equipment from Japan's leading manufacturers. JMU offers its own "SPB" cargo-containment system for large LNG carriers. In addition, the dimensions of Large LNG carriers compatible with the expanded Panama Canal's enable flexible trade.

\* Self-supporting prismatic shape IMO type-B



Car carrier



Large LNG carrier

### September 2013

- JMU became the first in the world to obtain an Approval In Principle (AIP) from Nippon Kaiji Keneteki Kyokai (NK) for its submerged floating power generation system using ocean thermal energy conversion

### October 2013

- JMU obtained an AIP from NK for its floating multipurpose LNG storage unit

### November 2013

- The patrol ship *Akitsuushima* was delivered to the Japan Coast Guard at the Isogo Works
- Verification trial operation of the

floating offshore fan off Fukushima started

### December 2013

- JMU agreed on the joint development of an LNG fuel tank made using the SPB method for container ships
- Mr. Naoki Tsuda, the former president of IHI Marine United Inc., received a "Traffic Culture Award" from Japan's Minister of Land, Infrastructure, Transport and Tourism

### January 2014

- JMU launched the "Back to Basics 2014" companywide initiative
- NUMAVIK*, a world-class large ice-breaking bulk carrier was christened

and delivered at the Tsu Shipyard

### February 2014

- JMU received orders for a fuel-efficient, low-emission car carriers
- JMU received orders for a large LNG carrier incorporating an SPB tank
- KYO-EI*, the first ship of super-Malaccamax VLCC, was delivered at the Ariake Shipyard
- JMU received an order from the government of Tuvalu for a cargo/passenger ship used for international voyages

### March 2014

- The Tsurumi Works obtained OSHMS certification