SPRING 2012 / No.103

Jsmea News

JSMEA
Japan Marine Equipment Association

Participating in Sea Japan 2012 as Japan Maritime Clusters

CONTENTS

At a time when the conditions surrounding maritime affairs are changing drastically around the world, Japan's concerned industries are all faced with severe situations. It can be said that they are suffering grave circumstances owing to the Great East Japan Earthquake of March 2011, the harmful rumors spread after the subsequent nuclear catastrophes, the yen's appreciation and other factors.

As such, maritime affairs clusters, forming the greatest strength of Japanese maritime affairs industries, have decided to cooperate with each other through participation in Sea Japan 2012—marking its commemorative 10th event—to dispatch to the rest of the world their high-level technologies that have been gained through research and testing, and other information.

During the Sea Japan 2012 exhibition—which will be held on April 18-20, 2012 at the Tokyo Big Sight Exhibition Center in Ariake, Koto ward, Tokyo—they will organize a maritime affairs cluster theme zone that will focus on energy conservation and environmental protection, both of which are their biggest challenges. They hope to make a greater presence via the zone by showing both domestically and internationally that Japan will continue to be an excellent and attractive maritime nation.

They will also give presentations on ship histories, naval vessels and other subjects to students and the general public, in hopes that this will help them better understand the important role of the maritime affairs industries of Japan, which as an island nation relies heavily on such industries.

Maritime affairs clusters organizing the maritime affairs cluster theme zone

During the exhibition, they will hold an international symposium to share with the world their information on energy conservation and environmental protection. They also hope to take the opportunity to boast about their technologies to both Japanese and foreign participants.

Shipping companies and organizations (four companies and one organization)

Nippon Yusen Kaisha (NYK), Mitsui O.S.K. Lines Ltd. (MOL), Kawasaki Kisen Kaisha Ltd. (“K” Line), Kuribayashi Steamship Co. Ltd. and the Japan Railway Construction, Transport and Technology Agency (JRTT)

Shipbuilding companies (seven companies)

IHI Marine United Inc., Oshima Shipbuilding Co. Ltd., Sanoyasu Shipbuilding Corp., Namura Shipbuilding Co. Ltd., Mitsubishi Heavy Industries Ltd. (MHI), Universal Shipbuilding Corp. and Yamanaka Shipbuilding Co. Ltd.

Marine equipment manufacturers

Akasaka Diesels Ltd., Utsuki Keiki Co. Ltd., Kita Engineering, Japan Hamworthy Co. Ltd., Kay Seven Co. Ltd., Sakai Chemical Industry Co. Ltd., Shinko Ind. Ltd., Daiichi Denki Corp., Taiko Sangyo Co. Ltd., Taiyo Electric Co., Ltd. Daihatsu Diesel Mfg. Co. Ltd., Nakashima Propeller Co. Ltd., MHI, Niigata Power Systems Co. Ltd., Hanshin Diesel Works Ltd., Hitachi Nico Transmission Co. Ltd., Fuji Trading Co. Ltd., HSN-Kikai Kogyo Co. Ltd., Yanmar Co. Ltd. and others

Universities

The University of Tokyo, Tokyo University of Marine Science and Technology and Yokohama National Univercity

Research institutes

The National Maritime Research Institute (NMRI)

Classification societies

Nippon Kaiji Kyokai (ClassNK)

Governmental organizations

The Ministry of Defense (the Technical Research and Development Institute and the Maritime Staff Office) and the Japan Coast Guard (JCG)

Relevant organizations and others

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Japan Marine Equipment Association (JSMEA), the Shipbuilders’ Association of Japan (SAJ) and The Cooperative Association of Japan Shipbuilders (CAJS)

List of Exhibitors (JSMEA members' zone)

Company	Company	Company
AKASAKA DIESELS LIMITED	MITSUI ENGINEERING & SHIPBUILDING CO., LTD.	SUCTION GAS ENGINE MFG. CO., LTD.
AZBIL CORPORATION	MIZUNO MARINE CO., LTD.	TAIKO KIKAI INDUSTRIES CO., LTD.
CHUGOKU MARINE PAINTS,LTD.	MOL TECHNO-TRADE, LTD.	TAIKO SANGYO CO., LTD.
CONHIRA CO., LTD.	MUSASINO CO., LTD.	TAIYO ELECTRIC CO., LTD.
DAIHATSU DIESEL MFG. CO., LTD.	NABTESCO CORPORATION	TANABE PNEUMATIC MACHINERY CO., LTD.
FUJI TRADING CO., LTD	NAKASHIMA PROPELLER CO.,LTD.	TERASAKI ELECTRIC CO., LTD.
GEISLINGER K.K.	NANIWA PUMP MFG. CO., LTD.	TOKYO KEIKI INC.
HITACHI NICO TRANSMISSION CO., LTD.	NIIGATA POWER SYSYTEMS CO., LTD.	TYCO FLOW CONTROL JAPAN
HSN-KIKAI KOGYO CO., LTD.	NIPPON HAKUYO ELECTRONICS, LTD.	USHIO REINETSU CO., LTD.
IBUKI KOGYO CO., LTD.	NISHISHIBA ELECTRIC CO., LTD.	UTSUKI KEIKI CO., LTD.
JAPAN RADIO CO., LTD.	NYK Trading Corporation	VOLCANO CO., LTD.
JFE ENGINEERING CORPORATION	SASAKURA ENGINEERING CO., LTD.	WOODS CORPORATION
JRCS MFG. CO.,LTD	SEKIGAHARA SEISAKUSHO LTD.	YAMATO METAL CO., LTD.
KANAGAWA KIKI KOGYO CO., LTD.	SHIMADA & CO., LTD.	YANMAR CO.,LTD.
KEI SYSTEM CO., LTD.	SHINKO IND. LTD.	YOKOGAWA DENSHIKIKI CO., LTD.
MITSUBISHI KAKOKI KAISHA, LTD.	SHONAN CO., LTD.	

DAIHATSU

DAIHATSU ENVIRONMENTALLY FRIENDLY GENSETS DIESEL ENGINE 6DE-23
Environmentally Friendly Engine

We have developed the environmentally friendly economical engines for energy saving with low maintenance cost, which also have a high potential for meeting stricter exhaust gas regulations in the future, of course IMO Tier 2 compliant.

These engines realized the environmental harmony and high performance by long-held technologies of DAIHATSU DIESEL.

D-power for the Earth

- Environment
- Endurance & Reliability
- Economy
- Easy Maintenance
- Ease & Safety

Scheme

1. Earth-Friendly Environmental Harmony
   (1) Decreasing Exhaust Gas Emissions
   - Conformity with IMO NOx regulations Tier 2 and Tier 3
   - Compatibility to low sulfur fuel oil
   - Reduction of CO2 emissions with low fuel consumption and smokeless

   (2) Reduction and Management of Hazardous Materials
   - Compliance with the "Ship Recycling Convention" and reduction of the hazardous materials

2. Enhancement in Durability and Reliability for the Long Life
   (1) Reduction of Operation Cost
   - Enhancing the durability and the reliability of parts, also achieving low fuel and lub. oil consumption

   (2) Certain Engine Start
   - Adoption of the compressed air start system, not influenced by air quality

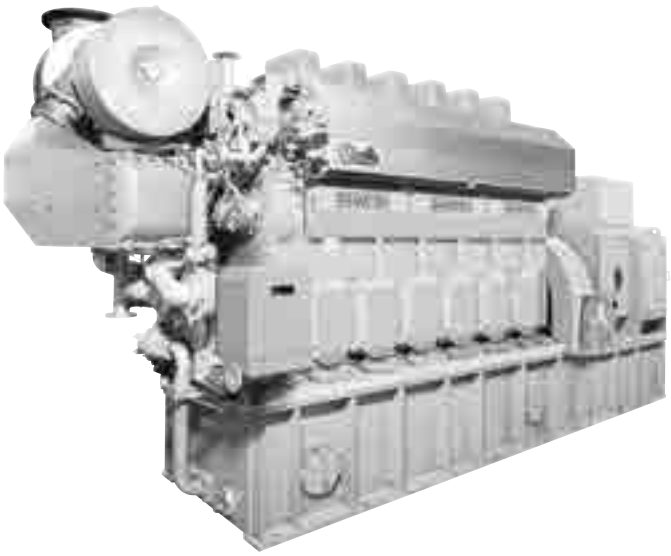
   (3) Securing the Lub. Oil Performance in the Long Life
   - Improvement of combustion, also adoption of a large centrifugal filter and an automatic baskwash filter

3. Improvement in Safety and Assurance
   (1) Perfect Fire Prevention Measures
   (2) Reduced installation work
   - Simplified connection points and unitization for easier installation

   (3) Easy Handling Engine Controller on Engiine
   - Integration of engine start-stop and protection device, also for easier communication

SPECIFICATIONS

Engine Model : 6DE-23
Cylinder Diameter : 230mm
Stroke : 320mm
No. of Cylinders : 6
Engine Output : 800 - 1200kWm (at 720min-1)
1040 - 1500kWm (at 900min-1)
Length x Width x Height : 6100 x 1110 x 2840mm
Dry Mass : 23000kg (with Generator)



DAIHATSU

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DAIKIN

New Sales Launch of the Container Refrigeration Unit ZESTIA™ Approximately 45% Energy Savings in an Industry First Use of DC Inverter

Daikin Industries, Ltd. announced the sales launch of the Container Refrigeration Unit ZESTIA™ for November 9, 2011. ZESTIA™, the world's first container refrigeration unit to employ a scroll type DC inverter compressor, features outstanding energy savings along with even greater ease in operation and maintenance. Recently, efforts have been made in the global maritime industry to strengthen environmental protection, and in July of this year a decision was made to introduce a CO2 emission policy*1 to international maritime transportation. With the steep rise in the price of bunker oil, the striving for energy savings has accelerated even further for container ships. Consequently, the trend towards pursuing energy savings from such aspects as reduction in operation costs and CO2 emissions has intensified, even for container refrigeration units.

In employing a scroll DC inverter compressor in ZESTIA™, Daikin leverages its abundant experience in commercial use air conditioners to achieve a world's first for container refrigeration units that reduces electric power consumption by approximately 45%*2. Moreover, the unit meets today's needs for larger container ships and improves ease of machine operation and maintenance so that inspection can be performed more efficiently in a shorter time.

Product Features

1. Achieves top-class energy savings with the industry first use of DC inverter compressor

Inverter control greatly reduces energy consumption by precisely adjusting the revolutions of the compressor to realize energy savings of approximately 45%*2 compared to conventional Daikin units and enable stable inside temperatures.

2. Adds new functions that improve ease of operation and maintenance

(1) Possible to download operation data to USB memory

Previously, analyzing the operation status of conventional refrigeration units required connecting a PC and downloading the operation record. However, with ZESTIA™, data can be directly downloaded from the unit controller to USB memory, eliminating the need to carry a computer. Furthermore, data transfer time has been shortened by 90%, making it possible to export the operation record in approximately 30 seconds.

(2) Improves visibility using a large-sized full dot matrix LCD screen with backlight

A large-sized 5.7-inch full dot matrix LCD screen has been adopted that is nearly twice as large as conventional screens and uses a full dot matrix screen that enables graphics to be displayed, including those showing a history of temperature changes inside the container and conveys the operation status in only one glance. Moreover, the new standard-equipped backlight makes operation simple with an exceptionally easy-to-read screen.

(3) Easier maintenance with simple failure checking

Maintenance time has been further shortened with the installation of LED lights inside the controller to make it easier to identify malfunctioning parts.

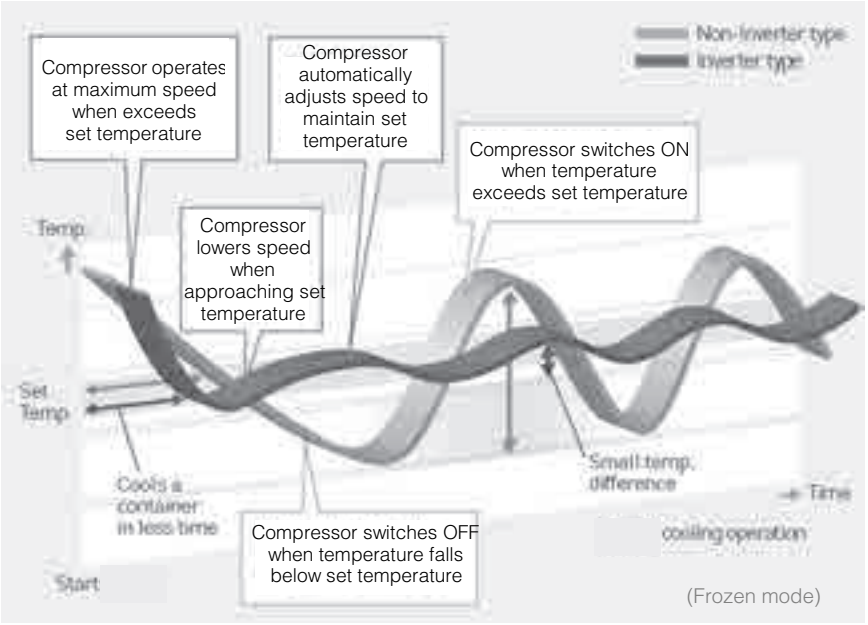
Price and Launch

Product Name	Price	Sales Launch
ZESTIATM (LX10F)	Open	November 9, 2011

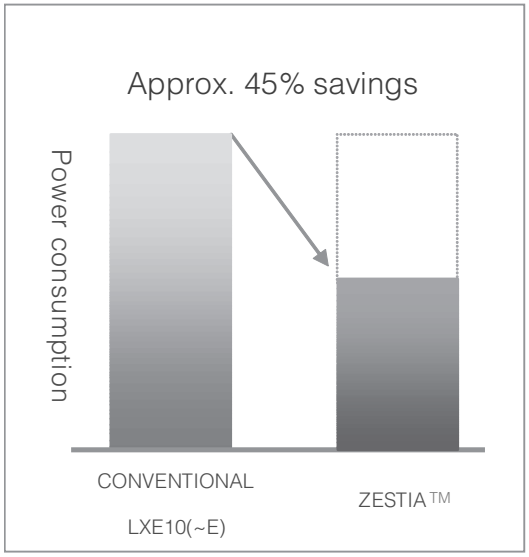
*1 The 62nd session of the Marine Environmental Protection Committee (MEPC) adopted a partial revision of the Convention on the Prevention of Marine Pollution that will be enforced from January 1, 2013.

*2 This is a comparison with Daikin's LXE10E(~E) Series of power consumption per hour when the operation ratio for chilled temperature range (- 9.9~+30˚C) and frozen temperature range (- 30~ -10˚C) is 60% and 40%, respectively.

Temperature Control Differences between Inverter and Non-Inverter type



Energy Savings



Exterior View (with Container Box)

DAIKIN

DAIKIN INDUSTRIES., LTD.

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CONTACT Add: Shin-osaka, Central-tower 6F, 5-5-15, Nishinakajima, Yodogawa-ku, Osaka-shi, Osaka-fu 532-0011, Japan

TEL: +81-6-6307-2341 FAX: +81-6-6307-2359

Marine LED Lighting

IBUKI KOGYO CO.,LTD is world leading marine signal supplier of whistle system,fog horn,inboard alarm system and bridge navigational watch alarm system."NAUTILIGHT" LED lighting series is state-of-the-art IBUKI new line up.

We have involved in research &development on LED lighting for marine use on annual grant(FS program) founded by Japan Marine Equipment Association(JSMEA).Our observation was aimed at coexistence of water proof,heat discharge at the initial innovation.

"NAUTILIGHT" series was released on market in 2008,it has been fulfilled the customer demand with the water proof and heat discharge which is enabled to be installed on ship in cabin, engine room,exposed area and every location .The initial development was alternative lighting from incandescent light.On the process of product innovation and market viewing,we decided to develop fluorescent light into LED type for general illumination line up.

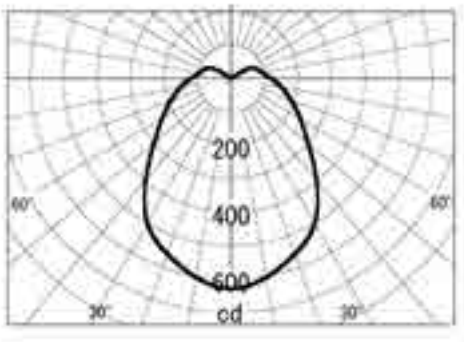
Prototype completed in 2009, this new launch model had the reputation for its water proof and wide distribution.(See the below photo and distribution graph)

In 2011,we released LED fluorescent light'LBX 'series according to the experienced study and development in 3 years. It has been welcomed with customer applause to be adopted many ongoing ships.

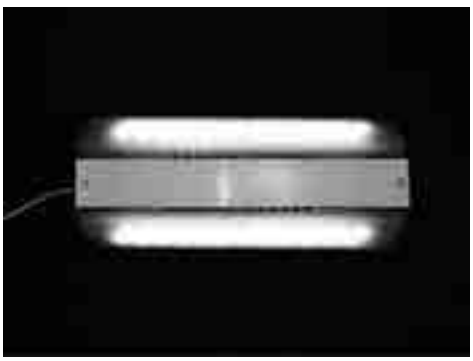
We expect this year more demand on LED lighting for green technology for ship's energy saving.

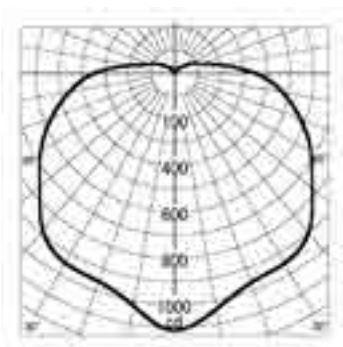
Variety of model is ready on board wall/flush/ ceiling mount,flood light and base light. IBUKI' NAUTILIGHT'series is all-round LED on ships.

LED fluorescent light Prototype



LED BASE LIGHT LBX-80W





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http://www.ibukikogyo.co.jp/

JAPAN HAMWORTHY

Integration System of Rudder Angle Detector & Steering Operation Monitor

1. System Outline

Japan Hamworthy & Co., Ltd. has developed integration system of rudder angle detector & steering operation monitor.

So far a rudder angle indicator has been provided only for monitoring a steering gear turning. It has not been possible to monitor an operating condition of a steering gear.

According to integrated system of rudder angle detector & steering monitor which is newly developed, monitoring of an operating condition is performed in addition to rudder angle detection.

2. Rudder Angle Detecting System

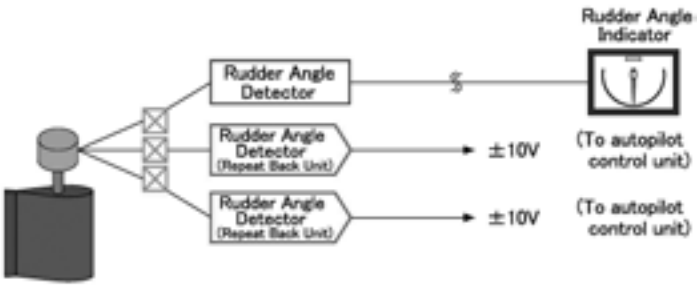
It is required for a steering gear to provide 3 sets of a rudder angle detecting device, independently, two for control use and one for rudder angle indicator use. Current rudder angle detecting systems for meeting these requirements are complicatedly composed, such as 3 sets of rudder angle detecting devices and link mechanism for transmitting rudder angle information to rudder angle detecting devices being laid protrusively onto a steering gear body outside.

A new system has been created, rationalizing these inconvenience.

3. Steering Operation Monitoring System

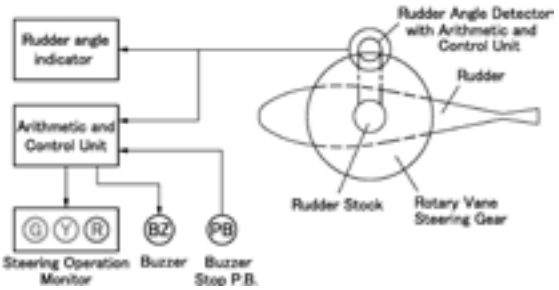
Normal operation of a steering system is indispensable for safe navigation of a ship. Nevertheless, the fact is that a ship operator becomes aware of disorder of a steering system for the first time after ship operation has become incapable, and it is problematical.

It is possible to improve safety of a ship by means of automatically monitoring conditions of steering system operation all the time and offers support information for avoiding risk.



Construct of Rudder Angle Detector & Steering Operation Monitor System

Rudder Angle Indicator with Steering Operation Monitor



Schematic Diagram of Rudder Angle Detector & Steering Operation Monitor

Rudder Angle Detector with Arithmetic and Control Unit

JAPAN HAMWORTHY

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NIIGATA agrees with AKA on partnership for hybrid tugboats

Niigata Power Systems Co. Ltd. (NIIGATA) and Aspin Kemp & Associates (AKA) of Canada in October 2011 agreed to jointly develop technologies for a hybrid system for tugboats and to supply the system.

Tugboats are small vessels that mainly help larger ships into and out of berths in ports and harbors, and many tugboats are deployed in ports and harbors across the globe.

As ports and harbors are usually located close to local communities, many people are concerned about how ships can ease their impact on the natural environment while moored at ports and harbors.

A hybrid system can contribute to reducing fuel consumption and the impact tugboats have on the environment.

Established in 1996 by two founders, Jason Aspin and Neil Kemp, AKA is engaged in devising solutions for marine and other engineering needs (e.g., power plants).

In January 2009, the world's first hybrid tugboat, Carolyn Dorothy of Seattle-based Foss Maritime Co., was launched.

As AKA was responsible for producing the tugboat control system, its successful debut brought international attention to the company.

Meanwhile, NIIGATA of Japan is one of the few manufacturers in the world that are capable of producing entire propulsion systems on their own, including ship engines with Z-Peller propulsion systems and control systems.

It holds a domestic share of more than 80 percent and a global share of 30 percent in manufacturing propulsion systems for tugboats.

The Tokyo-based engine maker is independently working on research and development for tugboats for domestic use in Japan.

NIIGATA aims to further improve its hybrid technologies and enrich its menu of hybrid products, while AKA hopes to raise its performance in selling hybrid tugboats.

Having confirmed each other's interests, the partners reached the above-mentioned agreement on a business partnership.

Through fostering of technical cooperation, their future plan is to increase sales of the world's highest-quality hybrid tugboats.

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http://niigata-power.com/indexj.html

Posidonia Ποσειδώνια
The International Shipping Exhibition
4-8 June 2012

Tre International Spipping Exhibition
Metropolitan Expo Center
Date: 4-8 June, Athens, Greece

AZUMA KAKO CO., LTD.
DAIHATSU DIESEL MFG. CO., LTD.
Fuji Trading Co., Ltd.
HSN-KIKAI KOGYO Co., Ltd.
JFE Engineering Corporation
MANABE ZOKI CO., LTD.
MITSUBISHI HEAVY INDUSTRIES, LTD.
NABTESCO CORPORATION
NAKASHIMA PROPELLER CO., LTD.
SHINKO IND. LTD.
VOLCANO CO., LTD.
YANMAR CO., LTD.

It's full steam ahead for JSMEA at posidhonia 2012

NAVALSHORE

Navalshore 2011

With support from The Nippon Foundation, the Japan Marine Equipment Association (JSMEA) participated in Navalshore 2011 on Aug. 3-5, 2011.

As in the previous year, the JSMEA took 10 member companies to the international maritime affairs exhibition held in Rio de Janeiro, Brazil (see 1).

The exhibition hall for Navalshore 2011, marking the eighth year for the event, covered a total area of 11,000 square meters, nearly double the area of 6,000 meters used in 2010.

Approximately 350 enterprises from 16 countries, including Japan as well as China, Norway and South Korea, ran booths, while the number of visitors was some 15,000, according to preliminary statistics provided by the promoter.

Prior to Navalshore 2011, on Aug. 2, a cooperation agreement was concluded by the JSMEA, which was represented by Vice-Chairman Yukinobu Fujimoto, and the Brazilian Association of Shipbuilding, Shiprepair and Offshore Industries (SINAVAL), led by Executive Secretary Sergio Leal.

A reception was held in commemoration of the conclusion of the agreement, which was attended by a total of 90 guests from Japan and Brazil.

During Navalshore 2011, the JSMEA visited major shipowners, relevant organizations, design firms and other parties (see 2) to exchange views and for other activities.

On Aug. 5, a roundtable meeting was convened

between the Japanese and Brazilian public and private sectors through promotion by Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT), or more specifically, the Ship Machinery Industries Division's International Affairs Office, which is under the jurisdiction of the Maritime Bureau.

Japan was represented by a party of 25, while Brazil sent a delegation of approximately 20 for their vigorous discussions on marine development technologies as well as technologies and other factors needing to be addressed in the future.

On behalf of the JSMEA, Vice-Chairman Fujimoto and two other executives attended Navalshore 2011.

Japan and Brazil intend to continue to hold Navalshore regularly to create business opportunities for both nations.

JSMEA again in full regalia at Navalshore 2012

Marintec China 2011

Subsidized by The Nippon Foundation, the Japan Marine Equipment Association (JSMEA) and 38 member companies attended Marine Tech China 2011 at the Shanghai New International Expo Centre (SNIEC) on Nov. 29-Dec. 2, 2011.

On the first day, Yukinobu Fujimoto, vice-chairman of the JSMEA, and Hiroyasu Izumi, consul general of Japan in Shanghai, together performed the ribbon cutting at the Japanese pavilion, getting the Japanese delegation off to a brilliant start.

Marine Tech is the largest maritime exhibition in Asia, and in 2011—the 16th year it has been held—approximately 1,650 enterprises from 31 countries participated and a total of around 50,000 visitors attended, which was an increase of some 10 percent from a year earlier.

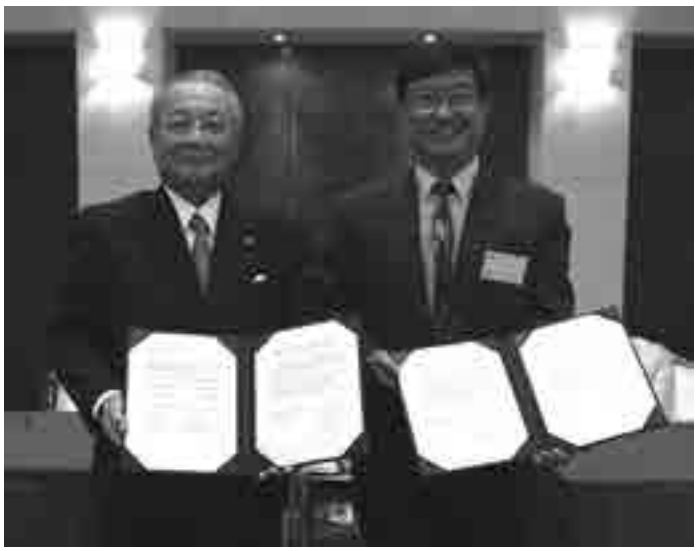
In addition to participating in Marine Tech China 2011, eight JSMEA members held a seminar at the SNIEC on Nov. 30, when actual exhibitions opened, and Dec. 1 to make presentations on their products.

During the two-day event, which attracted some 400 attendees in total, there was a vigorous question-and-answer session.

At the end of the seminar on the first day, Wu Taibin, vice-chief of the Nantong Gangzha Investment Promotion Bureau, gave a presentation to Japanese firms on the city's intensive zone-development plan for the marine equipment industry.

On Nov. 28, a day before the start of Marine Tech China 2011, Zenshichi Akasaka, chairman of the JSMEA, and Vice-Chairman Fujimoto met with representatives of the China Association of the National Shipbuilding Industry (CANSI) at the Oriental Riverside Hotel in Shanghai to deepen their relations with parties having interest in China's maritime industries.

At the same hotel, the JSMEA also held a get-together to provide exchange opportunities for some 270



representatives of Japanese and Chinese shipbuilders and marine equipment manufacturers.

During the JSMEA-CANSI meeting, an agreement was reached between the associations to use genuine marine equipment.

Also, on an invitation from Sinopacific Shipbuilding Group Co. Ltd. (SSG), Chairman Akasaka, Vice-Chairman Fujimoto and other JSMEA executives visited the shipbuilder's head office in Shanghai on Nov. 30.

Accompanied by 12 employees of six JSMEA members with an interest in learning about SSG, the JSMEA also visited and inspected the headquarters of Yangzhou Dayang Shipbuilding Co. Ltd. (YDS) in Jiangsu province.

The JSMEA delegation established ties with Simon Liang, chairman and CEO of SSG; other executives; officials of the local government and others; to exchange views on business development and other projects.

All of the activities the JSMEA conducted during its visits to SSG and YDS were supported by Nippon Kaiji Kyokai (ClassNK).

Report on participating in SMP World Expo 2012

Japan Marine Equipment Association

The Japan Marine Equipment Association (JSMEA) participated in the Shipping, Marine and Ports (SMP) World Expo 2012, which was held from Wednesday, Feb. 8, 2012 to Saturday, Feb. 11, 2012 at the Bombay Exhibition Centre in Goregaon, Mumbai, India.

With subsidy by The Nippon Foundation, we took nine member companies to the small-scale exhibition, which was attended by approximately 80 companies from Japan and 18 other nations.

On the first day, Chairman Jasu Shah of the Chemtech Foundation, India's leading industry organization, and Chairman and Managing Director Sabyasachi Hajara of The Shipping Corporation of India Ltd. (SCI) were introduced during the inaugural function.

Also introduced was Masahiko Yoshida of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the director of the Boat Affairs Office of the Maritime Bureau's Shipbuilding and Ship Machinery Division, who gave an address.

In addition to participating in the SMP World Expo 2012, five of the nine JSMEA member companies held a joint seminar on Thursday, Feb. 9, the second day of the exhibition, at the same exhibition center.

During the India-Japan Day Seminar, the five members gave briefings on their products to local shipowners, shipyards and other parties concerned with maritime affairs.

After the seminar, a reception was held jointly by the governments of India and Japan at Intercontinental The Lalit Hotel Mumbai.

The India-Japan Day Reception was attended by some 100 guests, who included those from the JSMEA member companies and the exhibition's board as well as shipowners, shipbuilders and other local parties relating to maritime affairs.

On Friday, Feb. 10, the JSMEA delegation visited SCI and The Great Eastern Shipping Co. Ltd. (GESCO) together with approximately 30 employees of member companies.

They exchanged views regarding future plans on constructing substitute ships and other subjects.

Details of the JSMEA's participation in the SMP World Expo 2012

(1) Area: 108 square meters (Hall 1)
(2) Number of exhibitors: nine* (six companies occupied space, one displayed panels and two provided catalogs) *Record-high number of exhibitors
(3) Exhibitors: alphabetical order

Those occupying space

Daihatsu Diesel Mfg. Co. Ltd., Fuji Trading Co. Ltd., Kamome Propeller Co. Ltd., Kanagawa Kiki Kogyo Co. Ltd., Nakashima Propeller Co. Ltd., Taiyo Electric Co. Ltd. and Yanmar Co. Ltd.

Those displaying panels

Akasaka Diesels Ltd.

Those providing catalogs

Shinko Ind. Ltd. and Nakashima Propeller

Details of the seminar held by the JSMEA to introduce products

(1) Name: India-Japan Day Seminar
(2) Place: Bombay Exhibition Centre (Hall 2)
(3) Time: 3:30 p.m.–5:30 p.m. on Tuesday, Feb. 9
(4) Number of participants: five
(5) Participants: alphabetical order

Akasaka Diesels, Daihatsu Diesel Mfg., Kamome Propeller, Mitsubishi Heavy Industries Ltd. (MHI) and Yanmar

JSMEA
Japan Marine Equipment Association

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See the Best in the World

2012年4月18日・19日・20日 18-20 April 2012

東京ビッグサイト Tokyo BIG SIGHT Exhibition Center

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