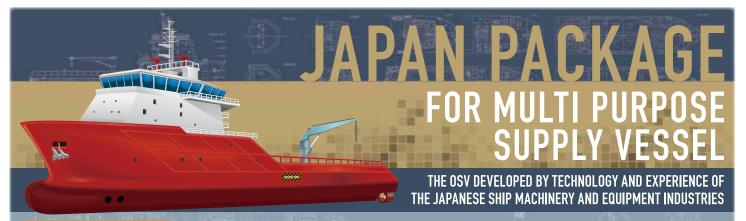


# smea







#### **Outstanding Features of the OSV**

- · Optimized for the operation at higher temperature, humidity and moderate sea states in shallow water, as opposed to the North Sea environment, as well as achieved affordable price by increasing cost effectiveness
- · Higher reliable and save-energy Japanese equipment to be fully applied
- · Eight packages are system-integrated, which sumplify shipbuilding process including engineering and ensure higher performance of the OSV.
- · Global service stations established by Japanese Manufacturers can be used at emergency conditions as well as regular maintenance.
- ABS granted "Approval in Principle (AIP)" to the concept of this project.
- OSV owners and operators pointed out that prevailing design of OSVs might have adopted higher specifications assuming operations in the North Sea, resulting in higher building cost. In our study, design and specifications of the OSV are optimized to suit the operation at higher temperature, humidity and moderate sea states in shallow water, different from the North Sea environment, employing reliable and save-energy Japanese ship machinery and equipment, which have been proven on merchant vessels,
- JSMEA may provide drawings and documents free of charge to owners who are interested in the construction of this OSV subject to a certain cooperation agreement.
- The OSV basic engineering and packaging project has been studied to contribute to the development mainly for the global offshore market in line with the policy of the JSMEA Offshore Development Strategy Review Board in corporation with 30 member companies for a couple of years in 2018 and 2019, which has been supported by Ministry of Land, Infrastructure, Transport and Tourism of Japanese Government (MILT) as well as basic drawings were made in cooperation with Shipbuilding Research Center of Japan (SRC).
- Upon completion of ABS final approval of the further submitted drawings, the OSV design will be eligible for ABS classification of AA1, Offshore Support Vessel (FFV 1), AMS, DPS-2, SPS, UWILD. ABS

JAPAN PACKAGE FOR MULTI PURPOSE SUPPLY VESSEL ...1

JSMEA participates in Marintec China 2019 ...... 2-4

JSMEA attends WMW '19 \_\_\_\_\_5 JSMEA organizes seminar in Turkey...... 6-7

equipment industry seminar in Manila ...... 8-9

JSMEA attends International Workboat Show 2019 ... 10

#### JAPAN PACKAGE PARTICIPATING COMPANIES

**BEMAC** BEMAC Corporation

#### DAIHATSU

Daihatsu Diesel Mfg.Co., Ltd.



M/GATA IHI Power Systems Co., Ltd.





MiURA MIURA CO.,LTD.



**NAKASHIMA** 



NHE Nippon Hakuyo Electronics.Ltd.

#### NAKASHIMA PROPELLER CO. LTD.

NISHISHIBA Nishishiba Electric Co.,Ltd.



#### TAIYO ELECTRIC COLUTO TAIYO ELECTRIC CO.,LTD.



USHIO

#### > YANMAR



Ushin Reinetsu Co. Ltd.

#### Yanmar Power Technology Co., Ltd.

Information on JSMEA members	VENDORS FOR JAPAN	N PACK
DAIHATSU DIESEL MFG. CO., LTD Fuji Electric Co., Ltd.	Furuno Electric Co., Ltd.	
FUJITSU LIMITED Shiodome City Center	Japan Radio Co., Ltd.	Kamar

Furuno Electric Co., Ltd. Japan Radio Co., Ltd.

TAJKO KJKAJ INDUSTRJES CO., LTD.

HEISHIN Ltd. Kamome Propeller Co., Ltd. Teramoto Iron Works Co., Ltd.

KAGE

Hien Flectric Industries, Ltd. NIPPON PAINT MARINE COATINGS Co., Ltd.

Terasaki Electric Co., Ltd.

Chugoku Marine Paints, Ltd.

COAST Corporation Hisaka Works, Ltd. SASAKURA ENGINEERING CO., LTD.

Volcano Co., Ltd.

Furuno Electric Co., Ltd. Hitachi Zosen Corporation IHI Power Systems Co., Ltd. Isoda Metal Co.,Ltd.

**CONTENTS** 

Infor

SKK Corporation TERASAKI ELECTRIC CO., LTD.

JSMEA holds 3rd ship machinery,

JSMEA joins IMPA London 2019 .....

SRC



## **JSMEA participates in Marintec China 2019**

Japan Ship Machinery and Equipment Association (JSMEA) took part in Marintec China 2019 on Dec. 3-6, 2019 at the Shanghai New International Expo Center (SNIEC) with financial support from The Nippon Foundation.

Marintec China, one of the largest international maritime exhibitions in the world, is held every other year in China. Launched in 1981, it was held for the commemorative 20th time last year. Marintec China 2019 hosted more than 2,200 exhibitors from 30 countries and regions, and welcomed over 65,000 visitors—5,000 visitors more than the last time.

At Marintec China 2019, JSMEA and 31 members erected the Japan Pavilion together with Nippon Kaiji Kyokai (ClassNK) near an entrance of Hall N1, which boasted many national pavilions of major economies. The Japan Pavilion for the first time adopted Open Space Technology (OST) for some of its exhibition booth layout and LED internal illuminations on its booth panels. This way, the pavilion brought about openness, while maintaining togetherness. At the presentation area set up in the Japan Pavilion, 11 exhibitors promoted themselves

and their respective products, with many visitors stopping to listen intently to the presentations.

The exhibitors gave Marintec China 2019 high ratings, with one remarking, "As the exhibition was visited by many people not only from China, but from Southeast Asia and Europe as well, I really felt it was one of the largest exhibitions in the world." While another exhibitor said, "It was a lively event, from which I learned how profoundly enterprises and countries were paying attention to the Chinese market." There were many other praises, which showed that their participation had been meaningful. One said, "I thought the Chinese market was much more bullish than it had ever been." And another stated, "As the number of visitors and exhibitors are on the rise as time goes on, I felt how notably the shipping and shipbuilding markets are growing in China." There was one exhibitor who said that it enjoyed an opportunity to research developments in the Chinese shipping and shipbuilding sectors.

On Dec. 3, when Marintec China 2019 kicked off, the opening ceremony was held for the Japan Pavilion, at which

Opening ceremony held for Japan Pavilion



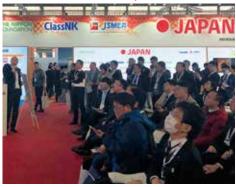
'Kagamiwari' performed at the Japan Pavilion.



Mr. Akio Isomata visits the Japan Pavilion



A presentation area is set up at the Japan Pavilion.





Mr. Shinzo Yamada, chairman of JSMEA, cut the ribbon together with Mr. Akio Isomata, Japanese consul general in Shanghai, and Mr. Junichiro Iida, senior executive vice president of Nippon Kaiji Kyokai (ClassNK). Mr. Isomata then visited booths at the pavilion, where he received briefings on products from exhibitors. At noon, Mr. Yamada and Mr. Iida moved on to "kagamiwari" to break open a sake barrel, a Japanese traditional custom performed on a celebratory occasion. The leaders were joined by three JSMEA vice chairmen: Mr. Shigeki Kinoshita, Mr. Masaharu Ono and Mr. Yoshiro Yamashita. Breaking out the sake led to the start of a sushi luncheon party, which attracted more visitors to the Japan Pavilion.

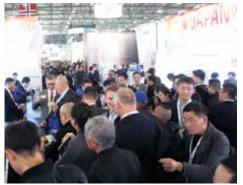
In the afternoon on the same day, JSMEA had a meeting with the China Association of the National Shipbuilding Industry (CANSI) at a hotel in Shanghai. A JSMEA delegation, led by Mr. Yamada and Mr. Ono, visited Mr. Guo Dacheng, president; Mr. Jin Peng, secretary-general; Ms. Tan Na Fen, vice secretary-general; and Mr. Chen Wenbo, director. Mr. Guo said that when the Belt and Road Initiative (BRI) is advanced more in China, realizing full market liberalization, the shipbuilding and ship machinery and equipment industries from both nations will be able to cooperate with each other at higher levels. He referred to several examples, including the recent successive establishment of joint ventures in China by Chinese and Japanese enterprises. In reply, Mr. Yamada said the Japanese ship machinery and equipment

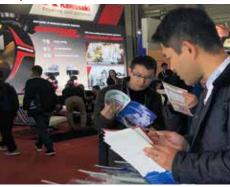
industry has underpinned the development of the Chinese maritime business by supplying high-quality products. Japan can continue to contribute to the sector, which is very likely to grow further in the future, by helping it comply with environmental regulations and adjust itself to digitalization, he added. JSMEA and CANSI agreed that they must continue to strive to maintain and even upgrade their partnership.

Later on the same day, JSMEA and ClassNK jointly organized a get-together at the same Shanghai hotel to encourage exchanges between the Japanese shipbuilding and ship machinery and equipment industries and their Chinese counterparts. As guests, Mr. Guo from CANSI and Mr. Ken Todoriki, deputy consul general at the Japanese Consulate General in Shanghai, were invited to the party, which was attended by 240 individuals from Japan and China. Many of the events held at the gathering included a sake barrel opening, a taiko drum performance and a drawing for gifts to participants prepared by the organizers and exhibitors. Through such events, people from both nations interacted with each other for about two hours.

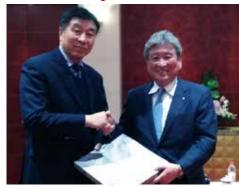
On Dec. 2, a day before the opening of Marintec China 2019, another JSMEA delegation, led by Mr. Yamada, Mr. Kinoshita, Mr. Ono and Mr. Yamashita, paid a courtesy visit to Mr. Isomata. They exchanged views and opinions with the consul general on the exhibition, the Japanese ship machinery and equipment industry and recent developments in China.

Many people visit the Japan Pavilion.





JSMEA holds meeting with CANSI



Mr. Guo Dacheng (left) and Mr. Shinzo Yamada (right)







Mr. Guo Dacheng (seated, left), Mr. Shinzo Yamada (seated, right), Mr. Chen Wenbo (standing, far left), Ms. Tan Na Fen (standing, second from left), Mr. Jin Peng (standing, center), Mr. Masaharu Ono (standing, second from right) and Mr. Noboru Ando (standing, far right)

#### **About JSMEA exhibitions at Marintec China 2019**

Exhibition space area: approximately 730m2 (B3A, Hall N1, SNIEC)

Number of exhibitors: 31 (26 running booths, four displaying panels and one distributing a catalog)

26 exhibitors running booths: BEMAC Corporation; Chugoku Marine Paints, Ltd.; Daihatsu Diesel Mfg. Co., Ltd.; Daikin MR Engineering Co., Ltd.; Fuji Trading Co., Ltd.; Ibuki Kogyo Co., Ltd.; IHI Power Systems Co., Ltd.; Japan Engine Corporation; Kamome Propeller Co., Ltd.; Kanagawa Kiki Kogyo Co., Ltd.; Kawasaki Heavy Industries, Ltd.; Manabe Zoki Co., Ltd.; Mitsubishi Heavy Industries Marine Machinery and Equipment Co., Ltd.; Mitsubishi Kakoki Kaisha, Ltd.; Musashino Co., Ltd.; Nabtesco Corporation; Nagasaki Sempaku Sobi Co., Ltd.; Nakashima Propeller Co., Ltd.; Naniwa Pump Mfg. Co., Ltd.; Nippon Hakuyo Electronics, Ltd.; Shinko Ind. Ltd.; Sunflame Co., Ltd.; Taiyo Electric Co., Ltd.; Tanabe Pneumatic Machinery Co., Ltd.; Yanmar Co., Ltd.; and Yokogawa Denshikiki Co., Ltd; four exhibitors displaying panels: Akasaka Diesels Ltd.; Miura Co., Ltd.; Mizuno Strainer Industries Co., Ltd.; and Riken Corporation; and one exhibitor distributing a catalog: Nishishiba Electric Co., Ltd.

\*The exhibitors formed the Japan Pavilion together with ClassNK.

#### **About meeting with CANSI**

Time and date: 17:15-17:45 p.m. on Tuesday, Dec. 3, 2019 Venue: VIP room, 7th floor, Oriental Riverside Hotel Shanghai,

Shanghai International Convention Center

Participants from Japan: Mr. Shinzo Yamada; Mr. Masaharu Ono; Mr. Noboru Ando, executive managing director of JSMEA; and Mr. Takashi Kawai, director of Japan External Trade Organization (JETRO) Hong Kong's Ship Machinery Department and participants from China: Mr. Guo Dacheng, Mr. Jin Peng, Ms. Tan Na Fen and Mr. Chen Wenbo

#### About get-together with Chinese shipbuilding and ship machinery and equipment industries

Time and date: 18:30-20:30 on Tuesday, Dec. 3, 2019

Venue: Pearl Room, seventh floor, Oriental Riverside Hotel

Shanghai, Shanghai International Convention Center

Guests: Mr. Ken Todoriki, Mr. Guo Dacheng and some 70 individuals from the Chinese maritime industry

#### Get-together held for Japanese, Chinese shipbuilding/ship machinery, equipment industries









Mr. Ken Todoriki is another guest.



Mr. Kanji Tsusui, vice chairman of JSMEA, proposes a to





A taiko drum performance is given



## **JSMEA attends WMW '19**

Japan Ship Machinery and Equipment Association (JSMEA) was in Malaysia with two member companies (IHI Power Systems Co., Ltd. and Taiko Kikai Industries Co., Ltd.) at World Maritime Week 2019 (WMW '19) in Kuala Lumpur on Sept. 10-12.

In March 2019, JSMEA signed a memorandum of understanding with the Malaysia Shipowners' Association (MASA), which organizes the WMW, to begin exchanging information on the latest trends in their nations' respective maritime industries and leading-edge technologies, promoting interactions between their respective members and paying each other regular visits for these purposes. JSMEA participated in the exhibition to enhance its partnership with MASA, which had asked it to do so in accordance with the agreement.

WMW '19 was attended by the Ministry of Transport (MOT), the Royal Malaysian Navy (RMN), the Malaysian Maritime Enforcement Agency (MMEA) and other governmental organizations. It also welcomed ship owners, shipbuilders, designers and others engaged in maritime affairs from neighboring economies, many of whom visited the JSMEA booth, where its promotional brochure of energy-saving and eco-friendly products as well as equipment catalogs of

member companies for offshore support vessels (OSVs) and floating production, storage and offloading (FPSO) systems were distributed and all gone on Day 1, which goes to show the high interest of those engaged in maritime affairs in Japanese ship machinery and equipment products. At the JSMEA booth, members' products were introduced with panels and catalogs, while information was widely exchanged with customers and potential customers.

On Sept. 13, a day after the WMW '19, JSMEA was invited to a dinner party organized by MASA, accompanied by IHI Power Systems, helping to deepen their friendship with MASA, the Association of Marine Industries of Malaysia (AMIM) and other local parties from the maritime industry.

#### **About WMW '19**

Dates: Tuesday-Thursday, Sept. 10-12, 2019

Venue: Kuala Lumpur Convention Centre, Kuala Lumpur City

Centre (address: 50088 Kuala Lumpur, Malaysia)

Number of exhibitors: 46 companies and organizations

Area of JSMEA booth: 9 m2

Attending JSMEA members: IHI Power Systems Co., Ltd. and

Taiko Kikai Industries Co., Ltd.



he opening ceremony of the WMW '19



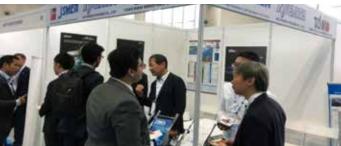
Mr. Anthony Loke Siew Fook, minister of transport (third from left) and Dato Ir. Abdul Hak Md. Amin, chairman of MASA (fourth from left) in front of the JSMEA booth



IHI Power Systems gives a presentation.



Booths at the WMW '19



The JSMEA boot



MASA organizes a dinner party.

## **JSMEA organizes seminar in Turkey**

Japan Ship Machinery and Equipment Association (JSMEA) was in the Turkish capital of Istanbul on Sept. 25 to hold a ship machinery and equipment seminar, in cooperation with the first JSMEA seminar there in eight years, a period that has seen a notable increase in the number of aged ships.

The seminar attracted 170 persons—more than the last time from the local maritime industry, including ship owners and shipbuilders. Representing JSMEA were Mr. Shinzo Yamada, chairman; Mr. Masaharu Ono, vice-chairman; Mr. Rejiro Urabe, head of the Overseas Market Development Working Group; and Mr. Shuzo Ueda, head of the Overseas Fishing Vessel Market Development Working Group. The quartet of leaders was accompanied by a delegation of 56 members from 19 member companies.

Mr. Yamada opened the seminar, saying, "Here in Turkey, the maritime industry has been growing rapidly in recent years. It is a global base for building not only commercial vessels for owners in Europe, but offshore support vessels, fishing boats and other highvalue-added ships as well.

"We believe today's seminar will be a great opportunity for those of you from the Turkish maritime industry to know Japanese ship machinery and equipment products," the JSMEA chairman said.

Mr. Huseyin Çinar, secretary-general of the Turkish Shipowners' Association, then addressed the audience on the importance of strengthening the relations between Turkey and Japan. He pointed out that while shipping tonnage provided by Turkish owners ranked 15th place in the world, vessels built in Japan account for 18% of those registered in Turkey. Therefore, he said, it is important to reinforce the relations between the two nations, and that he hoped their partnership would grow further.

From the ship owners' association, Mr. Cihan Ergenç, vicechairman, was also in attendance. As was invitee Ms. Mehtap Özdemir, secretary-general of the Turkish Shipbuilders' Association, who stressed that her nation's shipbuilding industry has a 600-year history, and boasts one of the world's greatest shipbuilding and repairing capacities. She also introduced innovative and ecologically friendly projects being advanced at local shipyards.

Following these leaders' addresses, 17 of the attending JSMEAaffiliated ship machinery and equipment manufacturers gave presentations on up-to-date information on their respective products and technologies. In parallel with the presentations, lively exchanges of views were held at conference tables arranged by the 19 members for those in similar business sectors. Visitors were provided with detailed information on products and technologies, while questionand-answer sessions were held on the presentations.



Mr. Shinzo Yamada giving the opening remarks











Ms. Mehtap Özdemir is another guest speaker.



Mr. Masaharu Ono makes the closing speech



After the seminar, JSMEA gave a well-received sushi reception to give its attending member companies and local and other visitors opportunities to casually interact.

Many of the JSMEA members participating in the seminar said that it was a valuable opportunity, as they were able to directly give the latest information not only to previous customers, but also to those with whom they had newly established relations. They added that they had successfully promoted the Japanese ship machinery and equipment industry and established stronger relations with their customers, potential customers and other local parties.

On Sept. 26, a day after the seminar, a delegation of 18 members representing JSMEA and affiliated companies, including Mr. Ueda, visited two local shipyards: the Cemre Shipyard and the Tersan Shipyard. The members were encouraged to observe the facilities and exchange opinions with staff members at the shipyards on future trends. The members of the delegation remarked that it had been great opportunity to call at the shipbuilders, and witness firsthand the many high-value-added ships being constructed. They also said they had learned many things through the detailed briefings and information from their hosts.

#### **About ship machinery and equipment seminar in Turkey**

Date: Wednesday, Sept. 25, 2019

Venue: Istanbul Marriott Hotel Asia (address: Kayisdagi Caddesi

No. 3, Atasehir, Istanbul 34750, Turkey)

Cooperating organizations: Turkish Shipowners' Association

and Turkish Shipbuilders' Association

For more details: https://www.jsmea.or.jp/en/seminar/2019/turkey/

Number of attending JSMEA members: 19

Those giving presentations and arranging conference tables: 17 (Fuji Electric Co., Ltd.; Fuji Trading Co., Ltd.; The Hanshin Diesel Works, Ltd.; Ibuki Kogyo Co., Ltd.; IHI Power Systems Co., Ltd.; Kamome Propeller Co., Ltd.; Kawasaki Heavy Industries, Ltd.; Mitsubishi Heavy Industries Marine Machinery & Equipment Co., Ltd.; Nabtesco Corp.; Nakashima Propeller Co., Ltd.; Naniwa Pump Mfg. Co., Ltd.; Nippon Paint Marine Coatings Co., Ltd.; Semco Ltd.; Taiko Kikai Industries Co., Ltd.; Taiyo Electric Co., Ltd.; Tokyo Keiki, Inc.; and Yanmar Co., Ltd.)

Those only arranging conference tables: 2 (Isoda Metal Co., Ltd. and Utsuki Keiki Co., Ltd.)

#### About visits to local shipyards

Date: Thursday, Sept. 26, 2019

Visited shipyards: Cemre Shipyard and Tersan Shipyard JSMEA-affiliated companies represented by delegation

members:

#### About local shipyards

#### <Cemre Shipyard>

Capacity of up to 12,000 tons of steel stock a year, the Cemre Shipyard specializes in the production of ferries and specialized vessels.

Largest vessels: 29,900 deadweight tons

Maximum annual completion capacity: 43,400 deadweight tons

Facilities: two quays, two slipways and others

#### <Tersan Shipyard>

Tersan Shipyard became operational in the early 1990s as a ship service company. In 2001, its group established the Tersan Shipyard, its first shipyard, in Tuzla, Istanbul. In 2008, it relocated some of its newbuilding construction and repair functions to Yalova.

Largest vessels: 12,100 deadweight tons

The JSMEA delegation visits the Cemre Shipyard.

Maximum annual completion capacity: 65,800 deadweight tons Facilities: three floating docks, two outfitting quays, one repair

berth, one slipway and others.







The JSMEA delegation also calls at the Tersan Shipyard.





Mr. Reijiro Urabe gives an address during the reception





## JSMEA holds 3rd ship machinery, equipment industry seminar in Manila

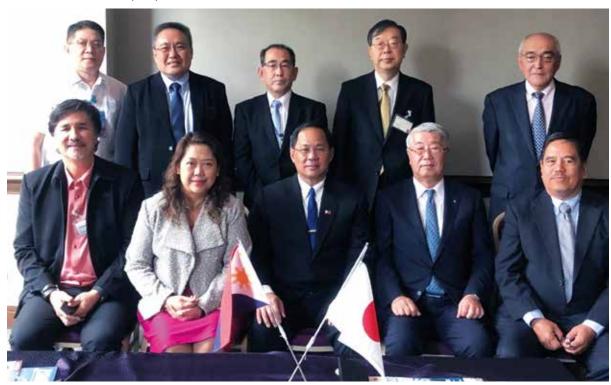
Japan Ship Machinery and Equipment Association (JSMEA) held a ship machinery and equipment industry seminar in Manila on Feb. 6, 2020 with financial support from The Nippon Foundation.

It was the third seminar that JSMEA had organized in the Philippines, following those in 2015 and 2018. As it did in 2018, JSMEA teamed up with Nippon Kaiji Kyokai (ClassNK), which gave a

seminar on ship management in the morning of the same day, for an event entitled "Japan Day".

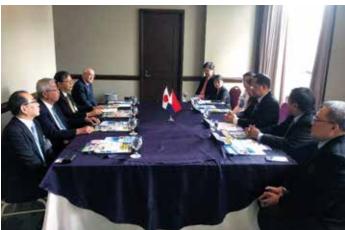
JSMEA signed memorandums of understanding (MoU) in March 2019 with the Filipino Shipowners Association (FSA), the Philippine Interisland Shipping Association (PISA) and the Philippine Petroleum Sea Transport Association (PHILPESTA) to enhance relations with these partners. In June 2019, JSMEA reached a similar agreement with

JSMEA meets with MARINA, FSA, PISA



Front row (from left): Mr. Christopher Pastrana, chairman of PISA; Ms. Naninette Villamor-Dinogol, deputy administrator for operations of MARINA; Vice-Admiral Narciso A. Vingson, Jr.; Mr. Masaharu Ono; and Mr. Dario Roy Alampay, Jr., chairman and president of FSA

Back row: Mr. Shuzo Ueda, head of the Overseas Fishing Vessel Market Development Working Group at JSMEA (center): Mr. Noboru Ando, executive managing director of JSMEA (second from right): and Mr. Shoichi Kitamura, advisor to JSMEA (tar right)



SMEA meets with MARINA, FSA and PISA.



Mr. Masaharu Ono delivers the opening address.



Vice-Admiral Narciso A.Vingson,Jr. gives the opening speech

the Maritime Industry Authority (MARINA). Help from these organizations enabled JSMEA to hold the Feb. 6 seminar, which welcomed some 180 attendees from a wide variety of sectors, such as the government, ship owners, shipbuilders and fishery companies.

Following the opening address by Mr. Masaharu Ono, vice-chairman of JSMEA, Vice-Admiral Narciso A. Vingson, Jr., officer-in-charge (OIC) of MARINA, delivered the opening speech. Mr. Vingson said the Filipino maritime industry is now accelerating its efforts to protect the natural environment and ensure safety, and to modernize domestic ships and the shipbuilding industry. To this end, he added, it is necessary to win cooperation from Japanese ship machinery and equipment makers. Based on the MoU signed between MARINA and JSMEA, Mr. Vingson said the Philippines hopes that Japanese manufacturers will continue to contribute to his nation.

After the opening ceremony, 12 JSMEA members gave presentations respectively on their latest products for fishing and other general commercial

vessels. The event was at overcapacity from the beginning, forcing many attendees to remain standing. Local interested parties continued to flow in to hear the presentations until the end. At business-matching tables set up near the seminar hall, the affiliated manufacturers actively exchanged information with customers, using their product catalogs and other materials.

After the seminar, JSMEA held a networking reception again with ClassNK, providing an opportunity to encourage those from both nations engaged in maritime affairs to deepen their friendship.

#### About ship machinery and equipment seminar

Date: Thursday, Feb. 6, 2020 Venue: Diamond Hotel Philippines

Attending JSMEA members: Daihatsu Diesel Mfg. Co., Ltd.; The Hanshin Diesel Works, Ltd.; IHI Power Systems Co., Ltd.; Kongo Colmet Mfg. Co., Ltd.; Miura Co., Ltd.; Nabtesco Corporation; Nakashima Propeller Co., Ltd.; Semco Ltd.; Taiyo Electric Co., Ltd.; Tokyo Keiki Inc.; Uzushio Electric Co., Ltd. (BEMAC); and Yanmar Co., Ltd.

JSMEA members deliver presentations





JSMEA organizes networking reception with ClassNK



Mr. Yoshinori Kozeki, corporate officer and director of the Survey Operation Division at ClassNK, give the opening remarks.





Mr. Shuzo Ueda speaks at the end of the reception

## JSMEA attends International Workboat Show 2019

Japan Ship Machinery and Equipment Association (JSMEA) was joined by four member companies at the International WorkBoat Show 2019 in New Orleans on Dec. 4-6, 2019.

Organized for the milestone 40th time last year, the annual exhibition targets the markets for offshore support vessels, tugboats and other workboats as well as domestic passenger ships operating in US coastal waters and rivers, and the shipbuilding market. It attracts ship designers, shipbuilders and ship machinery and equipment makers from around the world. The event organizer had announced in advance that it expected to host more than 1,000 exhibitors and 15,000 visitors.

To keep up with growing interest among its members in the US workboat market, JSMEA teamed up with Maritime Reporter and Engineering News, an American publication on the maritime industry. Together, they participated in the International WorkBoat Show for the fourth time.

At the International WorkBoat Show 2019, JSMEA secured space near a venue entrance—an ideal location with heavy foot traffic—to set up a booth with the four affiliated ship machinery and equipment manufacturers, at which it distributed brochures containing information on its members' products and contact details. The association also visited booths of local ship designers, shipbuilding companies and others to promote its members' business

operations.

The day before the opening of the International Workboat Show 2019, JSMEA called at Ingalls Shipbuilding, which builds vessels for the US Navy and other organizations, as it did the previous year. This time, however, it was accompanied by six member manufacturers. At the shipyard, JSMEA received word from an executive in charge of procurement welcoming their visit. The executive also expressed hope that interactions between the two parties would bear fruit for vessels produced by both Ingalls and the Japanese ship machinery and equipment industry. When the shipbuilder introduced its current projects, the six members showcased their respective products and conducted sales and marketing activities for the ships constructed there.

JSMEA decided to report on its attendance at the International Workboat Show 2019 and the views that it had exchanged with local enterprises when meeting with its Global Strategic Plan Review Board and other inhouse units to continue discussions on overseas market activities.

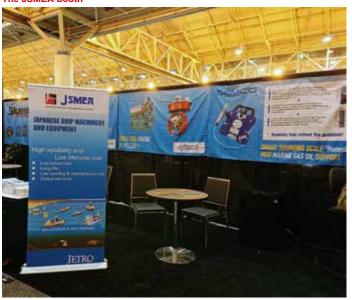
#### **About JSMEA exhibitions**

Area of JSMEA booth: 18m2

**Exhibitors**: IHI Power Systems Co., Ltd.; Naniwa Pump Mfg. Co., Ltd.; SEMCO Ltd.; and Takashina Life

Preservers Co., Ltd.

The JSMEA booth



w 2019 is organized at the New Orleans Ernest N. Memorial Convention Center.



### DAIHATSU

## **Duel-Fuel Engine Lineup**

Dual-fuel engines that operate on both environmentally friendly natural gas and conventional petroleum fuel require precise control and must offer high safety and durability. Daihatsu Diesel has incorporated the results of extensive research on the internal combustion engine into the development of our dual-fuel engines. Daihatsu Diesel dual-fuel engines offer accurate and stable operation on natural gas while incorporating the excellent environmental performance inherited from the company's diesel engines, which boast features such as a fuel injection system with high control precision, superb fuel efficiency and outstanding engine durability.



#### **Features**

#### 1) Extensive lineup

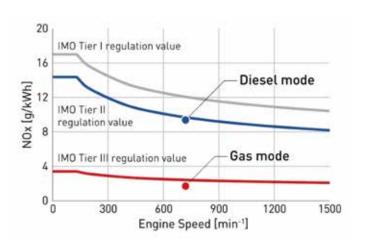
Daihatsu Diesel dual-fuel engines have an extensive lineup to meet customer needs and have been operating for marine and land use generator application.

#### 2 Compliance with emission regulation

Daihatsu Diesel dual-fuel engines comply with the IMO NOx Tier III and SOx regulation when running in gas mode and with the NOx Tier II when running in diesel mode.

#### 3 Stable switchover of fuel modes

Advanced fuel injection control ensures a smooth switchover to gas mode or diesel mode without changing the engine speed.



#### Main Specifications

Engine model		6DE20DF	6DE23DF	6DE28DF	8DE28DF	6DE35DF	8DE35DF
Bore x Stroke	mm	Ф205×300	Ф230×320	Ф280×390		Ф350×440	
Number of cylinders	-	6	6	6	8	6	8
Rotation speed	min-1	900	900	720/750		720	
Max. engine output	kWm	890	1200	1730	2300	3060	4080
Max. generator output	kWe	840	1140	1660	2200	2950	3940
NOx emission rate	-	≦ Tier III (gas mode) / ≦ Tier II (diesel mode)					
Fuel	-	Natural gas (gas mode) / MDO, MGO, HFO (diesel mode)					
Pilot fuel (gas mode)	-	MDO or MGO (approx. 1% of total heating value)					



#### DAIHATSU DIESEL MFG. CO., LTD

2-10, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo, 103-0023, Japan

Tel.: +81-3-3279-0821 Fax: +81-3-3245-0395 E-mail: products.info@dhtd.co.jp



## **SOx Scrubber**

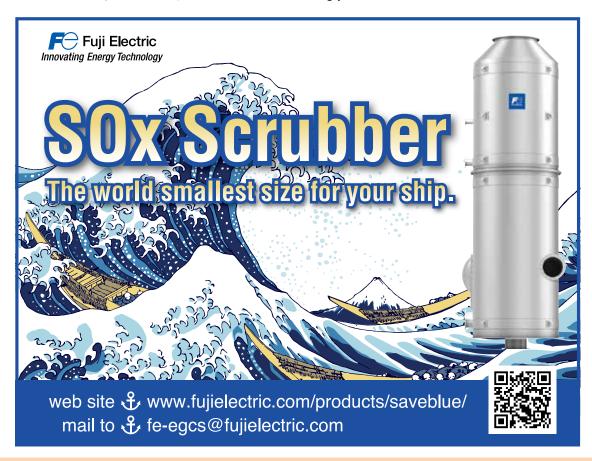
Fuji Electric having 95 years contribution to various industries including marine industry with innovative energy technologies launched exhaust gas cleaning system (EGCS) consisting of cyclone "SOx scrubber" and "laser gas analyzer" made in Japan. Since then, 100 contracts have been received and 40 scrubbers were already delivered. Over 20 systems have been completed sea trial successfully.

Fuji's scrubber has only half size of other conventional scrubber because of innovative cyclone technology and it can save not only space but also time for retrofit engineering and installation. The exhaust gas makes itself circulate in the scrubber tower by natural pressure from the main engine. Gas circulation earns time enough to absorb SOx gas with sea water sprayed finely. The scrubber's structure is very simple with no moving parts and realizes maintenance free for 15 years at least. It also eliminates the chemical layer called "packed bed" and makes the pressure loss minimum (less than 1Kpa) to avoid the engine performance worse.

Unlikely other scrubber's supplier, Fuji Electric develops, manufactures, supplies and services all components required for EGCS including SOx scrubber and gas analyzer.

Laser gas analyzer has been developed for only the marine EGCS recently. It has 1/10 size of conventional gas analyzer and less than half maintenance cost because of very accurate and stable laser sensor's capability. It does not need heated tube from the probe to the analyzer cabinet and the analyzer can be allocated at anywhere on the wall or on the pipe. The filter life of probe is double or longer compared with the conventional analyzer. The maintenance work for crew is extremely less.

Fuji Electric provides full maintenance services on various ports around the world for your satisfaction for long years.





#### Fuji Electric Co., Ltd.

Gate City Ohsaki, East Tower, 11-2, Osaki 1-chome, Shinagawa-ku, Tokyo 141-0032. JAPAN

URL: https://www.fujielectric.com



## **Safer navigation support service**

~AI-based proactive risk detection~

**Demonstration Only** 

Solution tested in Singapore, one of the world's busiest ports

### Proactive vessel collision avoidance support through near-miss risk detection & hotspot forecasting



■ To enhance risk surveillance operation

The solution supports users' decision making through accurate risk calculation from emergence to peak of collision risk.

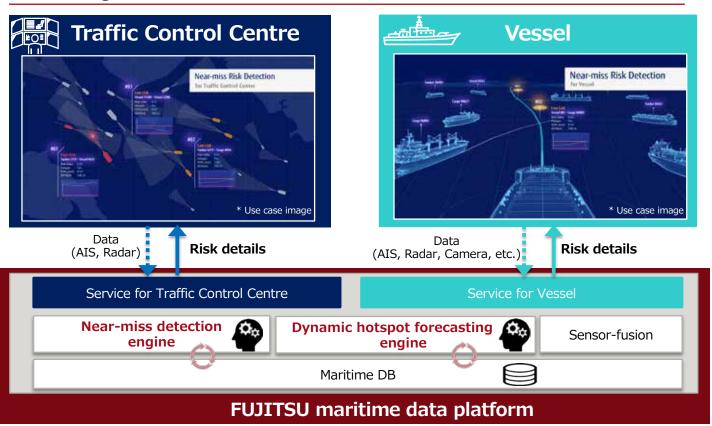
To support planning how to manage risk prior to the event

The solution provides warning up to 15 minutes before the risk peak, allowing operators act with room in his mind. The solution supports proactive risk management.

To support cooperative risk analysis by sharing data between vessels & shore The solution provides same level of risk information to both vessels & shore in order to realize cooperative risk management from multiple points of view.

#### Service image

Benefits



\* To be commercialized by 2021.



#### FUJITSU LIMITED **Shiodome City Center**

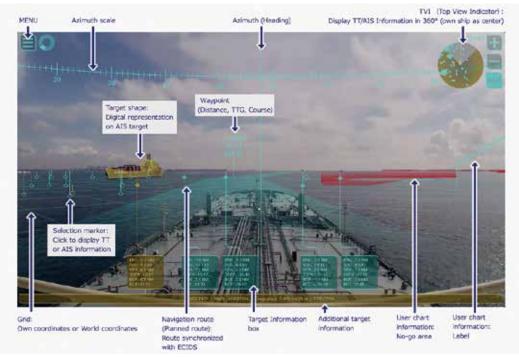
1-5-2 Higashi-Shimbashi Minato-ku, Tokyo 105-7123, Japan

Tel.: +81-3-6252-2220

URL:http://www.fujitsu.com/global/

#### FURUNO

## A whole new generation of support tool based on Augmented Reality technology



AR Navigation System AR-100M in-use (screenshot)

#### **Product summary**

Aiming to help large vessels navigate with peace of mind, we have developed a navigational aid system based on AR: FURUNO ENVISION AR Navigation System (AR-100M).

The FURUNO ENVISION series aims to contribute to the safety and security of the voyage by offering visual support to maneuvering and navigation during any operation, a further technological step towards autonomous navigation and the first product of an innovative series.

In addition to navigation information, such as position, speed and heading received fr

om GPS and other Gyrocompass receivers, AR-100M gathers AIS data, Target Tracking Radar data, ECDIS Chart and route data in one place by visually superimposing them on the actual live imagery captured by a camera pointing forward of the vessel.

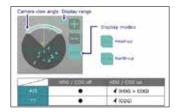
Until now, it was necessary to interpret ,at the same time, various data displayed on several screens to make the right decision, but thanks to FURUNO ENVISION AR Navigation System, everything can be checked at glance with only one screen.

This all-in-one-place solution allows better sharing of crucial information and makes the coordination of the captain and his crew much simpler.

#### Features

#### ■ TVI (Top View Indicator)

Displays other ships by either Target Tracking (TT) or AIS in 360 degrees with own ship as center.



#### Target shape

By superimposing the graphical virtual shape over AIS targets





(virtual buoy, buoy, boat, tanker), it becomes easy to visually grasp the location of dangerous targets and their directions.

#### Intuitive color-coded display for targets

Based on CPA/TCPA value, TT and AIS targets will be displayed in different colors according to their threat level.



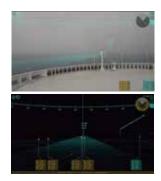
#### ■ AR Navigation ON/OFF Comparison in bad weather conditions and nighttime

No matter the visual conditions (night, bad weather), all dangerous targets are displayed as superimposed graphical shapes.

By using a surveillance video camera and overlaying AR information on the display, our AR Navigation System allows for quick and intuitive situational awareness.

For more details, please visit our website https://www.furuno.com/special/jp/envision/
You can check an actual AR Navigation screen record at the link below:

https://youtu.be/zTW1OBMA2T0





#### Furuno Electric Co., Ltd.

9-52, Ashihara-cho, Nishinomiya 662-8580 Japan Tel.: +81-0-79863-1100 FAX: +81-0-79863-1020

E-mail: ryusuke.soda.zc@furuno.co.jp



### Hitachi Zosen Corporation

## **Urea Dilution System for Marine SCR**

Hitachi Zosen Corporation has developed and begun sales of a new urea dilution system (the UDS Series) for SCR systems installed in marine engines. This device produces urea water, used as a reducing agent for SCR systems that scrub NOx (nitrogen oxide), from powdered urea and the distilled water obtained from shipboard water production equipment. The urea water storage tank is more compact and can produce highquality urea water at low cost on board, contributing to the stable elimination of nitrogen dioxide.

#### **Features**

- 1. A lineup featuring three types to choose to select urea water usage
- 2. Allows urea water production volumes to be optimized to suit SCR operation in regulated waters.
- 3. High levels of reliability and ease of operation developed from a wealth of operation on trial ships.
- 4. Anti-shock function good enough to survive sloshing caused by ship listing or drop shocks from adding urea powder.
- 5. Uses urea powder suited for long-term storage that is easy to transport and control temperatures.
- 6. Contributes to reducing the size of urea water storage tanks.



#### Main specifications

Model number	<b>UDS-1000</b>	<b>UDS-500</b>	UDS-300	
1. Max input volume	1,000 kg	500 kg	300 kg	
2. Max production volume	2,500 kg	1,250 kg	750 kg	
3. Production concentration	40% (equivale	_		
4. Time required for production	Approx. 4 hours (batch type)			

#### **Hitachi Zosen Corporation**

Hitachi Zosen Corporation

Omori Bellport 26-3, Minamioi 6-chome, Shinagawa-ku, Tokyo 140-0013, Japan Tel.: +81-3-6404-0141 Fax: +81-3-6404-0149 URL: https://www.hitachizosen.co.jp/english/index.html



## More than century of experience leads to innovative power

NIIGATA has recently been expanding orders of its dual fuel engine 28AHX-DF series for direct drive application especially in tugboats. The number of orders becomes totally 15 units in 8 vessels through Asian and European customers. In these vessels, the 28AHX-DF dual fuel engines drive not only azimuth thruster NIIGATA Z-PELLER® with fixed or controllable pitch propellers but also other thrusters like Voith Schneider Propeller. NIIGATA has supported LNG-fuelled vessels' operation and construction based on its broad know-how and experiences in various vessel applications.

Since 2015, Japan's first LNG-fuelled tug Sakigake has been in commercial operation powered by NIIGATA propulsion package of dual fuel engines and Z-PELLER® azimuth thrusters. This vessel is also World's first LNGfuelled tug coupled with fixed pitch azimuth thrusters. This configuration is essential for tugboats, that is able to follow a frequent and sudden load fluctuation in gas mode, and also changeover between gas and diesel modes smoothly, even at any load condition.





Recently built LNG-fuelled tugboats are KST Liberty and Maju Loyalty operated in Singapore, owned by Keppel Smit Towage/Maju Maritime, a joint venture of Keppel and Royal Boskalis Westminster. Each is equipped with two 6L28AHX-DF main engines each of 1,920kW, and two NIIGATA ZP-41 fixed pitch azimuth thrusters.

Last year 2019 was the 100th year anniversary of NIIGATA diesel engines, and in addition, the 50th year anniversary of NIIGATA Z-PELLER® azimuth thrusters. 100 years ago, Japan's first marine diesel engine was developed by this brand. Its fuel oil consumption is approximately 70% of major hot-bulb engine at that time, and it became widely accepted. The first Z-PELLER® was delivered for a tugboat in 1969, and over 5,000 units have been shipped to the world nowadays. NIIGATA has released upgraded azimuth thruster ZP-41B with fixed pitch propellers of 3,000mm diameter to be guaranteed 100 ton bollard pull for vessels.

On July 1st 2019, Niigata Power Systems Co., Ltd. was re-named, and newly started as IHI Power Systems Co., Ltd by consolidating all the Power Systems Divisions of IHI Group. NIIGATA brand name of engines and Z-PELLER® remains unchanged, and is continuously used after the re-naming of the company. We continue to challenge and provide reliable products and services to all over the world.

#### IHI Power Systems Co., Ltd.

14-5, Sotokanda 2-Chome, Chiyoda-ku, Tokyo 101-0021, Japan

Tel.: +81-3-4366-1226

URL: https://www.ihi.co.jp/ips/english/index.html

#### **O** Isodametal

## Plain bearing product maker of foundation for 114 years.

#### **Product Outline**

Isoda Metal Co., Ltd., is a plain bearing specialist manufacturer with a history of more than 110 years since its establishment. With technical expertise and rich manufacturing know-how accumulated over many years of manufacturing experience, we can manufacture bearings to best suit customer needs.

This is only possible because we are a one-stop manufacturer with all processes under one roof from design through casting, processing, plating, and inspection to marketing.



#### **Product Features**

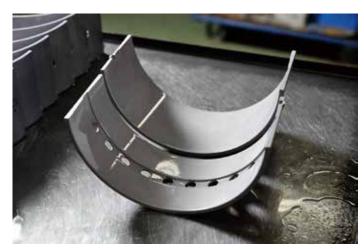
#### Advantages and applications of our products

A plain bearing is used to lubricate the rotating shaft in an engine and must be manufactured with high accuracy. A high-quality bearing minimizes damage inside the engine and reduces the risk of serious accidents. We provide bearings intended mainly for diesel engines for ships, power generators, etc., compressors, speed reducers, machine tools, and other devices.



A thin metal workpiece will easily deform if processed directly and hence is always processed with it fitted on a dedicated jig. It can be distorted from the residual stress caused by the heat generated during the casting process. Therefore, it is heat-treated to reduce the effect of residual stress as much as possible. In addition, other techniques, such as deformation correction, are also required to manufacture thin-walled plain bearings.







#### Isoda Metal Co.,Ltd.

1-23-8, Yaguchi, Ota-ku, Tokyo, 146-0093, Japan

Tel.: +81-3-3759-5351 Fax: +81-3-3758-5681 (Charge: Mr. Kazuya Ohara) E-mail: info@isodametal.co.jp URL: https://www.isodametal.co.jp/



## All Electric Grab Dredge Crane & Hybrid Marine Cranes For Dredging, Lifting, Piling, and Rock Breaking works

#### **Overview**

SKK Corporation has been manufacturing marine cranes for over 60 years in Japan. The basic design of SKK cranes are using an engine and an omega drive (transmission), and the capacity is from **5 to 32M3 dredging**, and/or **up to 700 ton lifting**.

We also developed hybrid system for all electric dredge crane and basic engine type dredge crane.

#### All Electric Grab Dredge Crane: The Largest Line Pull Capacity 160Ton

All Electric Grab Dredge crane without an engine, GE Series, driven by the electric power to be supplied from the vessel.

It is able to stock energy to capacitors by grab lowering, and reuse the energy for hoisting. This hybrid system leads to reduce fuel consumption, Exhaust Gas, CO2, Vibration, and Noise.

#### **Attachment Options**

- Flat dredging control system
- Rock breaking controlled by disk brake
- Automatic grab opening brake
- Dredging engineering control (GPS)

system, and more.

#### **Other Cranes**

All SKK cranes are custommade.

We can combine 2 uses in ONE crane.

(ex. add lifting hooks to dredge crane or add piling leader to lifting crane)

Please visit our website below or contact us for any questions.



GE Series (All Electric Crane with Hybrid System)











#### **SKK Corporation**

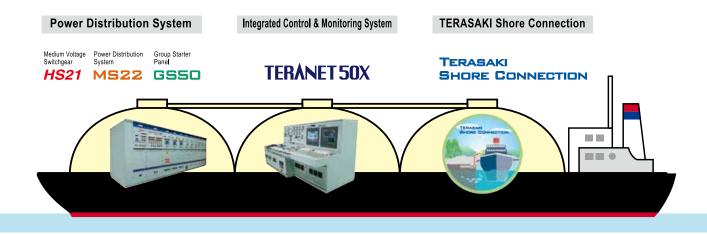
1-3 YOKOHAMA-NISHIMACHI, KOCHI-CITY, JAPAN 781-0242 Tel: +81-88-842-6262 Fax: +81-88-842-4023

E-mail: sales@skk-crane.co.jp URL: http://www.skk-crane.co.jp/en



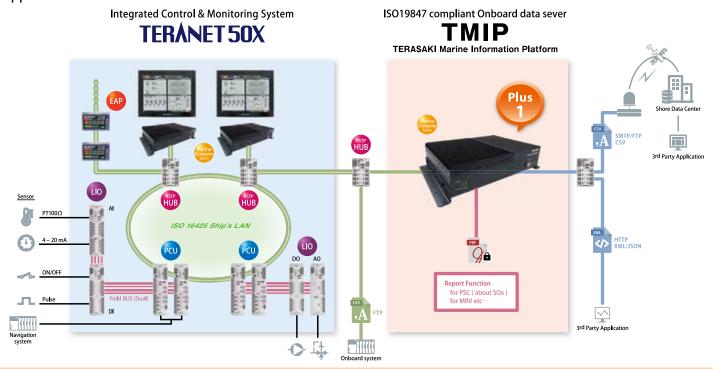


## **Providing "safety" across the seven seas**



TERANET50X system integrates interchangeable and standard components over a dual loop Ethernet network, which effectively minimizes the impact of equipment. Then, the ship-to-shore information sharing platform enables ships and land-based offices to share data with wide range of applications through communication and storage features designed for utilizing "Big Data" base. In addition, the system is put on energy-saving ship and contributes to global environmental protection by increasing the optimum operating efficiency of the plant.

TERASAKI will provide TMIP (TERASAKI Marine Information Platform), which is a ship-to-shore information sharing platform. TMIP can share the collected data with various onboard equipments and applications.





#### TERASAKI ELECTRIC CO., LTD.

6-13-47 Kamihigashi, Hirano-ku, Osaka, 547-0002, Japan

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## **JSMEA joins IMPA London 2019**

Japan Ship Machinery and Equipment Association (JSMEA) took part in IMPA London 2019, accompanied by four member companies.

JSMEA has been present at the exhibition every year since 2013. IMPA London 2019, held in the capital city of the United Kingdom on Sept. 10-11, welcomed many ship owners from its neighboring countries. Members of the JSMEA delegation visited the booths of ship machinery and equipment manufacturers, trading houses dealing with such products and other parties that do business regularly with the association to exchange information. JSMEA and Fuji Trading Co., Ltd. combined their booths in the adjacent lot for a larger Japan Pavilion. The pavilion also attracted many visitors, offering opportunities to maintain relations with ship owners and providing product information through its catalogs.

The Japan Pavilion was represented by Mr. Kanji Tsutsui, vice-chairman of JSMEA and president of Shinko Ind. Ltd., while the four

affiliated companies displayed their product catalogs. JSMEA staff members, for their part, distributed a brochure of energy-saving and eco-friendly products manufactured by affiliated companies.

JSMEA is determined to enhance the partnerships between its members and parties from Europe that are concerned with maritime affairs. To this end, it will actively promote its affiliated ship machinery and equipment makers by attending exhibitions and through other efforts.

#### **About IMPA London 2019**

Dates: Tuesday-Wednesday, Sept. 10-11, 2019

**Location**: London, United Kingdom **Venue**: Queen Elizabeth II Centre

Exhibitors: Kyokuyo Electric Co., Ltd.; Semco Ltd.; Teikoku

Machinery Works, Ltd.; and Yanmar Co., Ltd.

#### The entrance of Queen Elizabeth II Centreequipment industries

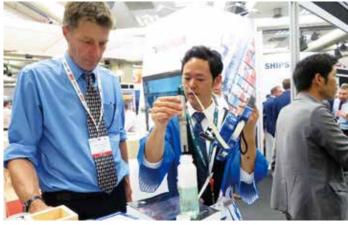


#### Catalogs are available at the Japan Pavilion.equipment industries



#### The Japan Pavilion







#### **Head Office:**

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