



# Jsmea News

## JSMEA holds ship machinery, equipment seminar at MMW22

The Japan Ship Machinery and Equipment Association (JSMEA) remotely participated in Malaysia Maritime Week 2022 (MMW22), held in Kuala Lumpur on Feb. 22-24, 2022. Five members organized a video seminar at 14:00-15:45 on Feb. 23. The exhibition was attended by some 200 visitors, including many from the government of Malaysia and the local maritime industry, such as MISC Berhad, Petroliam Nasional Berhad (PETRONAS) and the Malaysia Shipowners' Association (MASA).

which signed a memorandum of understanding (MoU) with JSMEA in 2019. Due to the ongoing coronavirus pandemic, only a limited number of visitors were allowed, but the exhibition itself was given as an in-person event. However, the pandemic kept JSMEA and member companies from travelling to Malaysia to be physically present. As such, the seminar was conducted in a conference hall next to the exhibition venue, showing videos recorded in advance by the five members.

JSMEA arranged the seminar to meet a request for cooperation to attend MMW22 made by MASA,

At the start of the seminar, JSMEA Chairman Kinoshita Shigeki gave an opening address, with

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JSMEA Chairman Kinoshita Shigeki makes opening remarks at the JSMEA seminar.

a summary that included the introduction of the cutting-edge technologies being developed in Japan toward zero emissions and digitalization. He also expected stronger ties to be built with the Malaysian maritime industry. MASA Chairman Mohamed Safwan Othman also delivered a speech, saying the seminar was an extremely great opportunity to obtain up-to-date information and deepen relations between Malaysia and Japan. He also wanted JSMEA to visit his country next year by all means.

The member quintet introduced in their presentations efforts they are making to achieve zero emissions and digitalization and showcased relevant products.

At the end of the seminar, JSMEA Vice-Chairman Oda Masato in his closing remarks said that he hoped the information given by the member companies will be of help to the Malaysian maritime industry and an opportunity for those from the maritime industries of both countries to strengthen partnerships.

The online seminar was the second such event that JSMEA had conducted for overseas partners and customers. Joined by the Association of Marine Industries of Malaysia (AMIM) it organized an online seminar in November 2020 with financial support from The Nippon Foundation.

<About MMW22>

**Dates:** Tuesday-Thursday, Feb. 22-24, 2022  
**Venue:** Kuala Lumpur Convention Centre (address: Jalan Pinang, Kuala Lumpur City Centre, 50088 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia)  
**Organizers:** Malaysia Shipowners' Association (MASA) and Marine Department Malaysia (MARDEP)  
**Supporter:** Ministry of Transport (MOT)  
**Number of exhibitors:** 41 enterprises and organizations  
**URL:** <http://masa.org.my/event/mmw22/>

<About JSMEA seminar>

**Time and date:** 14:00-15:45 on Wednesday, Feb. 23, 2022  
**Venue:** Exhibition Hall 6C, Kuala Lumpur Convention Centre  
**Style:** Online (pre-recorded presentation videos were shown)  
**Presenters:** BEMAC Corporation; Daihatsu Diesel Mfg. Co., Ltd.; IHI Power Systems Co., Ltd.; Tokyo Keiki Inc.; and Yanmar Power Technology Co., Ltd.  
**URL:** <http://www.jsmea.or.jp/en/seminar/2022/malaysia/>



Malaysian Minister of Transport Wee Ka Siong gives an opening address at MMW22.



The opening ceremony of MMW22 is held.



Presentation video by Yanmar Power Technology



Presentation video by IHI Power Systems



MASA Chairman Mohamed Safwan Othman also speaks at the beginning of the JSMEA seminar.



Presentation video by BEMAC



A local MC announces the start of the JSMEA seminar.



A presentation is given at the JSMEA seminar.



Presentation video by Tokyo Keiki



Presentation video by Daihatsu Diesel Mfg.



A presentation is given at the JSMEA seminar.



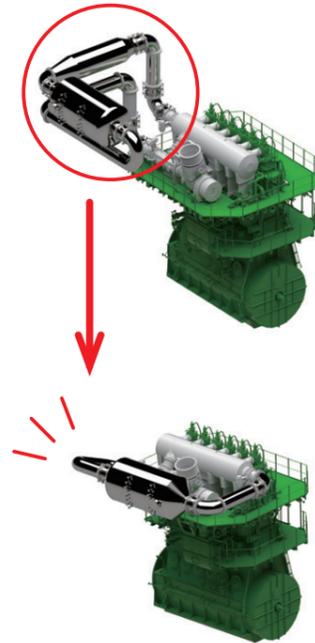
JSMEA Vice-Chairman Oda Masato delivers the closing speech at the seminar.



## Hitz Green SCR Mk-II- newly developed model with compact design

Hitachi Zosen's newly-developed High pressure SCR (Hitz Green SCR Mk-II) has successfully been in service from 2021. Hitz Green SCR (Mk-II) is smaller and more compact compared to the previous model (Mk-I). SCR system is used for decomposing NOx into harmless nitrogen and water with the aid of catalyst and urea solution. Tier III NOx regulations of the International Maritime Organization (IMO) require 80% reduction of nitrogen oxides (NOx) emission from Tier I regulations, that means it is necessary for marine vessels to be equipped with any decomposing NOx technology.

Hitz Green SCR (Mk-II) was developed to meet demands from our customers. There was a great demand to downsize the equipment for ships which will be additionally equipped with SCR system because the space of engine rooms is limited. To meet this demand, Hitachi Zosen developed small-sized Hitz Green SCR (Mk-II) which has greatly reduced the installation area compared to the previous model and is applicable to various vessel types.



**Recorded 10,000 hours commercial operation**  
**Received more than 117 orders from all over the world**  
**More than 57 sets are already in service**

\*As of December 2021



### Urea Dilution Skid for Marine SCR

Since its market launching in 2019, Urea Dilution Skid (hereafter called "UDS") for SCR systems has successfully in service since 2020. This device produces urea solution, used as a reducing agent for SCR systems that decomposes NOx, from urea prill and the distilled water obtained from shipboard water production equipment. The urea solution storage tank is more compact and can produce urea solution at low cost on board, contributing to the stable decomposition of NOx.



#### HITACHI ZOSEN CORPORATION

OMORI BELLPORT D-WING, 26-3, MINAMIOI 6-CHOME, SHINAGAWA-KU, TOKYO 140-0013, JAP  
 TEL : +81-03-6404-0141 FAX : +81-03-6404-0149  
 E-MAIL: machinery\_process001@hitachizosen.co.jp



## Development of green technologies targeting zero-emission from ships

IHI Power Systems Co., Ltd. (IPS) has been developing and updating our products to meet consistently market needs and environmental regulations.

Since 2015, Japan's first LNG-Fueled tug Sakigake has been in commercial operation powered by NIIGATA Brand propulsion package of dual-fuel engines 28AHX-DF and Z-PELLER® azimuth thrusters. This configuration is essential for tugboats, which is able to follow a frequent and sudden load fluctuation in a gas mode that meets IMO Tier III, and also changeover between gas and diesel modes smoothly, even at any load condition. IPS has delivered 15 units of 28AHX-DF coupled with a fixed-pitch propeller with proven design and continues to develop Methane (CH<sub>4</sub>) slip reduction.

IPS has been developing an ammonia-fueled engine as a member of the consortium that NYK Line takes initiative aiming to use ammonia as a marine fuel to significantly reduce greenhouse gas (GHG) emissions during voyages and thus commercializing an ammonia-fueled vessel for the good of society earlier than 2030 as part of "Green Innovation Fund" project.



IPS undertakes a role in this consortium of developing a four-stroke ammonia-fueled main engine for the operation of an ammonia-fueled tugboat (A-tug) and a four-stroke ammonia-fueled auxiliary engine for the operation of an ammonia-fueled ammonia gas carrier (AFAGC). Targeting the delivery of A-Tug is in FY2024, while AFAGC's in FY2026 to achieve the earlier carbon-neutral society by 2030. IPS aims to reduce GHG emissions by achieving an ammonia fuel mixed combustion rate of 80% or higher taking advantage of our knowledge and know-how of developing an LNG dual-fueled engine.

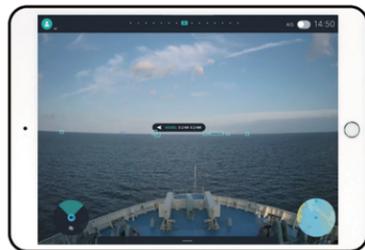
In response to the growing demand for a fully electric propulsion system, IPS has developed L-Drive Electric Z-PELLER® for the electrical propulsion system. It leads to a compact and highly efficient electric propulsion system mounting Permanent Magnet motors vertically and omitting mechanical loss. IPS can propose the most efficient electric propulsion package accommodating each customer's operation profile and integrating the hybrid system with diesel engine, azimuth thruster, generator, battery, motor, inverter, DC Grid, and so on.

IPS has been a front runner as a marine engine manufacturer in Japan for over 100 years. However, today the environment surrounding our business is changing rapidly, and very uncertain about the next decade. To deal with this unpredictability, we continue to make innovations beyond the existing engine maker definition and provide reliable products and services 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 FAX: +81-3-4366-1310  
 URL: <https://www.ihico.jp/ips/english/index.html>



## command

Support navigation and the safe operation of vessels

Utilizing computer vision (AI image recognition) technology developed in-house by JRCS, command detects ships, buoys, drifting objects, and other non-AIS objects, as well as allowing users to browse and operate electronic charts (ENC) with overlaid real-time AIS data.



## assist

Reduce the burden on seafarers on the front lines of the marine industry

Developed with the user in mind, assist provides services with practical functionality such as trouble reports using photos and images, centralized troubleshooting management, and information sharing with shore-based managers.



## connect

Maximize fleet performance



From the connect dashboard, fleet managers can check the operation status, engine status, and alarm information managed by the engine monitoring device. The data collection, reporting, analysis, and follow-up work that was previously carried out on the ship can now be carried out by the fleet manager on the cloud, enabling prompt response in the event of a problem.



JRCS Co.Ltd.

Digital Innovation LAB  
URL : <https://infoceanus.com/en/>  
E-mail : [biz\\_digital@jrco.jp](mailto:biz_digital@jrco.jp)



SKY Perfect JSAT Corporation  
**JSATMarine**



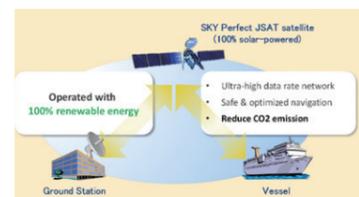
# SKY Perfect JSAT launches high-speed maritime broadband service "JSATMarine"

In response to accelerating digitalization in the maritime industry and ever-growing demand for crew internet connectivity, SKY Perfect JSAT Corporation has commenced its new maritime broadband service "JSATMarine" from January 2022. "JSATMarine" is one of the world's top GEO satellite based maritime service\*1 in terms of speed with **50Mbps** (shore-to-ship) and **3Mbps** (ship-to-shore) at **monthly fixed rate**. The service covers major shipping routes from the Western Pacific Ocean region to the Indian Ocean and Middle East region.



"JSATMarine" Service Coverage\*2 in green

SKY Perfect JSAT uses its own HTS (high throughput satellite), teleport and platform to provide high-speed internet access, together with enhanced network security such as encryption and managed firewalls. Also, as part of our commitment to achieve our SDGs target, "JSATMarine" facility and platform is fully powered by renewable energy.



With the introduction of "JSATMarine", shipping companies can take advantage of its connectivity in promoting maritime IoT solutions for safety navigation and operational efficiency. Also, faster Wi-Fi access can support more video communications and improve crew welfare.

Furthermore, SKY Perfect JSAT will continue to work towards developments of autonomous ships in the future of the Japanese maritime industry.



## Case Study

In January 2022, cable-laying vessel "KIZUNA", operated by NTT World Engineering Marine Corporation, has started to use "JSATMarine" for its communication network as a first user. Under the COVID-19 situation, remote-work and web-conferencing has now become the new-normal, and by utilizing our service, crew on "KIZUNA" can work similarly on-ship as it was on-land and take advantage of communication tools as well as improvement of crew welfare.



Cable-Laying Vessel: "KIZUNA"

## Online meeting utilizing "JSATMarine"

The "JSATMarine" sales team conducted tests\*3 with online communication tools (Microsoft Teams) as well as online streaming apps.

As result, it provided great user experience with smooth access, it almost seemed like on-land communication environment.



### About SKY Perfect JSAT

SKY Perfect JSAT Corporation is a leader in the converging fields of broadcasting and communications. For more information, visit our Space Business Website (<https://www.skyperfectjsat.space/jsat/en/>).

### SKY Perfect JSAT Corporation

Akasaka Intercity AIR 11F 1-8-1 Akasaka, Minato-ku Tokyo JAPAN 107-0052  
TEL: +81-70-4360-8151  
E-mail: [kawae-akihiro@sptvjsat.com](mailto:kawae-akihiro@sptvjsat.com), [JSAT-Maritime-Sales@sptvjsat.com](mailto:JSAT-Maritime-Sales@sptvjsat.com)

\*1 According to Euroconsult Report: 2021 April 9th edition "PROSPECTS FOR MARITIME SATELLITE COMMUNICATIONS" p.33 \*2 Coverage as of January 2022. Some speed plans and coverage may not be available at the time of service launch. \*3 as of December 2021 at JSAT test terminal



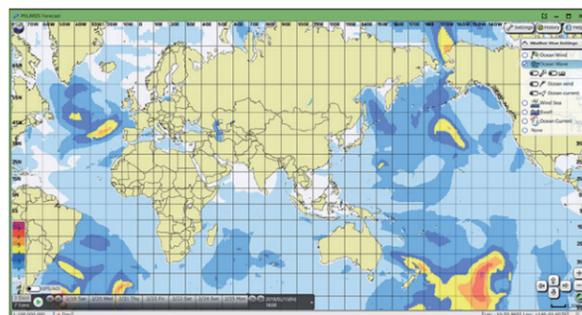
## Precise Ocean data LibrARy and Intelligent Service

Meteorological and oceanographic data is essential and used in a wide range of fields: such as the assessment of efficient ship operation and its design, safe and energy saving voyage, verification and assessment after voyage, and also working on IoS (IoT of ships). We support these fields with our POLARIS API services.

### POLARIS Forecast

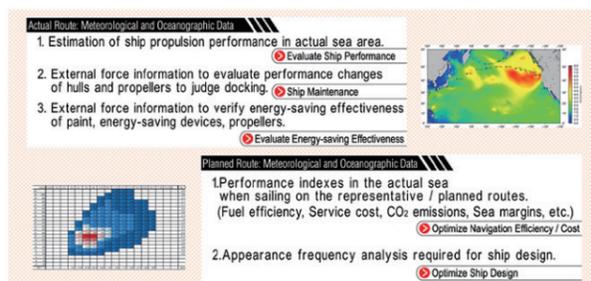
POLARIS Forecast shows highly accurate weather and ocean forecast data on board. You could download the application on your PC. It also covers spot-use.

- \* Global forecasts are up to 30 days.
- \* With especially high accuracy for the oceans surrounding Japan.



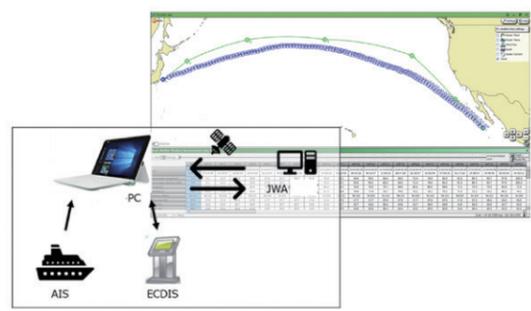
### POLARIS Hindcast

POLARIS Hindcast provides various kinds of weather and ocean data associated by the ship's track via Web API. The minimum time interval of this data is 10 minutes, and the shortest distance interval is about 20m. This global data could contribute to improve the fuel and operational efficiency of vessels.



### POLARIS Navigation

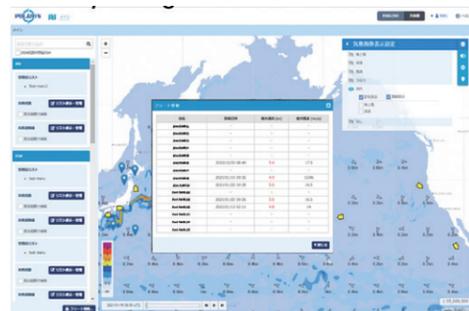
POLARIS Navigation provides and uses various weather and ocean forecast data to recommend the optimal route information on board. As with POLARIS Forecast, you can download the application on your PC. It also supports import and export of route information with ECDIS.



### POLARIS Plus

POLARIS Plus is a web service for fleet management, optimal route planning, cargo handling and port arrival/departure decisions.

We will support the improvement of ship fuel efficiency, GHG reduction and drive operational efficiency through DX



## Nabtesco

### Aiming to be a Innovation Leader -Release Of New Remote Control System "M-800-VII"

Nabtesco aims to be "Leaders in Innovation for the Future", as long-term vision for 2030.

We not only solve the obvious problem of our customers but also grasp the unseen problem in the world and customers, and aim to be an innovation leader to create a new value.

We will release new model of remote control system, M-800-VII of our main products on around April 2022. M-800-VII succeeds the good point of the current model, M-800-V and pursue the usability. The feature is the various input/output ports designed for cooperation between systems, improvement of processing capability and design change of the display and telegraph handle. The display has a flat appearance and UI(User

Interface) design. And the display size is 8.4 inch just same as the current model and 12 inch is lined up as option. On the other hand, the telegraph handle succeeds our original linear type design and modify it so that we emphasize the operation and visibility. And we are able to supply you with a stable quality by using the durable parts like contactless position sensor.

We tackle the accomplishment of SDGs and aim to contribute to the society with the manufacture of environment- and earth-friendly. M-800-VII is able to apply for the remote control system of hybrid/ electric- powered ship and LNG/LPG-fueled ship with these features. Nabtesco contributes to GHG reduction in the shipping industry.



### Japan Weather Association

Sunshine 60 Bldg. 55F, 3-1-1 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-6055 Japan  
URL : <https://www.jwa.or.jp/english> E-mail : [wavedata@jwa.or.jp](mailto:wavedata@jwa.or.jp)



## Nabtesco

### Nabtesco Corporation

1617-1, Fukuyoshidai 1-chome, Nishi-ku, Kobe, Hyogo 651-2413, Japan  
TEL: +81-78-967-1551 FAX: +81-78-967-1563 <https://www.nabtesco-marine.com/>  
E-mail: [Kenji\\_Miyanishi@nabtesco.com](mailto:Kenji_Miyanishi@nabtesco.com) [Daiki\\_Nagai@nabtesco.com](mailto:Daiki_Nagai@nabtesco.com)



## Providing top values to global marine industries.



### FASTAR

Nanodomain structured AF coating

FASTAR is a self polishing & self smoothing antifouling paint with NANO-Technology, combining both hydrophilic & hydrophobic in nano-structure. FASTAR provides the following benefits.

- Significantly reduces the elution of biocides, by up to 50%, thus reducing the impact on the marine environment.
- By significantly reducing the number of painting process man-hours, the burden of painting work can be reduced by up to 37%.
- Provides improved antifouling property and up to 60 days of layup period.
- Reduces CO2 emissions and fuel consumption from ships due to approximately 8% of fuel-saving effect.

FASTAR will make a significant contribution to the ESG management of shipping companies and shipyards.

### NEOGUARD TOUGHNESS

High Hardness Hold coating

NEOGUARD TOUGHNESS is a high-performance anticorrosive cargo hold coating designed to provide long term protection from corrosion and mechanical damage caused by abrasive cargos and high impact loading procedures.

This heavy-duty system generates significant cost savings for ship operators by reducing the need for costly maintenance and lengthy downtime periods.

The coating's easy cleaning properties allow for quick and efficient turnaround between cargos. NEOGUARD TOUGHNESS contributes to reduce maintenance & repair work.



During NEOGUARD TOUGHNESS GRAY application    After NEOGUARD TOUGHNESS GRAY application    After NEOGUARD TOUGHNESS RED OXIDE application



## Next-Generation Refrigerant R449A for Air Conditioner and Refrigerator

### What is the next-generation refrigerant R449A?

R449a is a mixture of common hydrofluorocarbons (HFC) and new hydrofluoro-olefin molecule R1234yf (HFO), a composition of R32 (24%), R125 (25%), R134a (26%), and R1234yf (25%) gases. Chlorine is not present in R449a, and consequently, it has zero ozone depletion potential (ODP). Its global warming potential (1397) is 64% respectively lower than R404a.

R449a is suitable for new installations as well as for retrofit of existing systems, offering improved energy efficiency and environmental properties.

No ozone layer depletion	Ozone depletion potential (ODP)=0
No acceleration of global warming	Global warming potential (GWP)=1,397
Energy saving performance	COP=Large (COP: Coefficient Of Performance)
Safety	Non-toxic and non-combustible
Reliability	Thermally and chemically stable
Economic efficiency	Low-cost and superior in supply stability
Availability	Easily available at ports of call

### Reduction in greenhouse gas (GHG) emission risks

Change to **R449A** reduces the effect of greenhouse gas emission risks by as much as **102,000kg\***.

\* In the case of equipment charged with 40kg of R404A

### Retrofit to Low-GWP Refrigerant is recommended

Refrigerants subject to environmental regulations	Domestic vessels	Ocean-going vessels	New refrigerant <b>R449A</b>	① Unit replacement ② Partial change <small>(compressor, expansion valve, refrigeration equipment oil, cleaning required)</small>
<b>R22</b>  <b>R404A</b>	Availability difficult due to total phase-out of domestic production from 2020 onward  Increasing costs due to deterioration in availability	Available in developing countries until 2030  Availability of refrigerant-related servicing and maintenance difficult in Europe from 2020 onward		

Please contact us for pricing and other details.



### NIPPON PAINT MARINE COATINGS CO., LTD.

Tel.: +81-78-735-5301  
E-MAIL: contact@nipponpaint-marine.com  
URL: www.nipponpaint-marine.com



### Ushio Reinetsu Co., Ltd.

5-3 Creative Hills, Imabari, Ehime 7940069 JAPAN  
TEL: +81-898-34-1203 FAX: +81-898-34-1204  
URL: http://ushioreinetsu.co.jp/english/ E-mail: support@ushioreinetsu.co.jp



It's been a while... Now, back to business.  
We've got a lot to talk about.

# REGISTER NOW!

AND GET FREE ACCESS TO BOTH REAL & ONLINE EVENTS

20 - 22 April 2022  
10:00-17:00  
Tokyo Big Sight  
East Hall 5 & 6



Dual Themes of Sea Japan 2022

## TOWARDS THE ERA OF **DIGITAL** AND **ZERO**

⚓ Road Map to Zero Emission for Environmental Protection and DX for New Opportunities ⚓

### JAPAN PAVILION

Japan Ship Machinery and Equipment Association (JSMEA) participates in Sea Japan as Japan pavilion, supported by the Nippon Foundation, comprising the Japanese maritime cluster and JSMEA members.

Over 100 exhibitors have confirmed their participation from Japan Pavilion, they present the state-of-the-art technologies, products, and services.

The exhibitor list is available on Sea Japan web site as below and QR code on the right side.

WEB [https://www.seajapan.ne.jp/en/japanmaritimeonline\\_jp/exhibitorlist2022\\_en/](https://www.seajapan.ne.jp/en/japanmaritimeonline_jp/exhibitorlist2022_en/)



The Exhibitor List

### Sea Japan Online & Matchmaking Service

Attend the Webinars Delivered before the Real Exhibition Starts!

Watch the seminars and exhibitor presentations which will be held online ahead of the exhibition.

#### Utilization of the Exhibitor Online Catalogue

As well as being able to search for exhibitors throughout product categories or keywords, you can also watch videos of exhibitors you are interested in and obtain product brochures in advance.

#### Online Matchmaking Service

You can send business meeting requests to exhibitors you wish to contact, in addition to that, you can receive business requests from exhibitors who can offer the technologies and services you are looking for.



## Register Now!

Completed Registration allows you  
to participate in both real and online



Japan Ship Machinery and Equipment Association

#### Head Office:

Toranomon Toyo Kyodo Building, 13-3, Toranomon 1-chome, Minato-ku, Tokyo 105-0001, Japan  
Tel: +81-3-3502-2041 Fax: +81-3-3591-2206 E-mail: [info@jsmea.or.jp](mailto:info@jsmea.or.jp) URL: <http://www.jsmea.or.jp>

#### Overseas Offices:

##### JETRO Hongkong, Ship Machinery Department

Room 4001, 40/F., Hopewell Centre, 183 Queen's Road East, Wan Chai, Hong Kong, China  
Tel: +852-2501-7291 Fax: +852-2868-1455

##### JETRO Houston, Offshore and Maritime Department

1221 McKinney, LyondellBasell Tower, Suite 4141, Houston, Texas 77010, U.S.A.  
Tel: +1-713-759-9595 Fax: 1-713-759-9210

##### JETRO Singapore, Ship Machinery Division

Hong Leong Building, #38-01 to 05 #37-02A 16 Eaffles Quay, Singapore 048581  
Tel: +65-6429-9522 Fax: +65-6224-1169