

Schedule of MEET Seminars -Enjoying Popularity Across the World

Seminar on November 7 in Greece and at Marintec China (Shanghai) in December

In the first half of this year, we exhibited booths at LNG 17 (Houston), CIMAC (Shanghai), BARI-SHIP (Imabari), Nor-Shipping (Oslo) and Navalshore (Rio de Janeiro). MEET Seminars were held in Imabari and Oslo, while a user seminar was held in Singapore, all of which were popularly received. In particular, there were more than 100 applications for the user conference in Singapore despite the fact that it was our first marine engine and equipment seminar in Singapore.

In the second half of this fiscal year, we are scheduled to host MEET Seminars in Taipei (September 13), Athens (November 7), and in Shanghai in December to coincide with Marintec China, the world's largest marine fair. If you are interested in attending, please contact us at info_meet@mhi-mme.com.

Major Seminars-Held or Scheduled

Date	Seminar name
May 23, 2013	Imabari MEET Seminar (Bari-Ship)
June 1, 2013	Oslo MEET Seminar (Nor-Shipping)
June 11, 2013	Singapore User Seminar
September 13, 2013	Taiwan MEET Seminar
November 7, 2013 (scheduled)	Greece MEET Seminar
December 2013 (scheduled)	China MEET Seminar (Marintec China)
February 2014 (scheduled)	Imabari User Seminar



Singapore User Seminar
(June 2013)

New Website Opened

Enriched Content, Such as Articles on Solutions

We carried out a major review of the content of our website as an MHI business unit and have newly opened a website as the Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd.

Products were the focus of the information we provided on the MHI website. In the new site, we will diversify the content to include other information of interest to customers, including the proposal of solutions and information on our after-sales service menu. Please visit our website when you have a chance.



Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd. Website

URL <http://www.mhi-mme.com>

News from MHI Offices Abroad



Mitsubishi Heavy Industries (Shanghai) Co., Ltd. (MHISH)

Takuya Matsunaga, Vice General Manager

Daijia hao (hello everyone)! This is Takuya Matsunaga of Mitsubishi Heavy Industries (Shanghai) Co., Ltd. (MHISH).

MHISH is located in the Lujiazui area of the Pudong district in Shanghai, China. The area is filled with many skyscrapers, including China's tallest, the Shanghai World Financial Center (492 meters), which opened in 2008. The Shanghai Tower (632 meters) is also under construction and is scheduled to open in 2015. The cityscape shows the momentum of Shanghai.

There are 6 people in Shanghai who are in charge of marine products, including 1 person here on an extended business trip. We are active as the front-line troop for Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd.

I assumed my post here in August last

year and am serving as the first head of our marine business in China. The marine business of Mitsubishi Heavy Industries (China) Co., Ltd. and MHISH was little known, and market penetration and infrastructure establishment have been quite difficult. I still struggle on a daily basis with the difficulty of doing business in China, where business customs differ from Japan. Fortunately, we have wonderful Chinese staff members who are bridging the gap between Japan and China and dealing with ship owners, shipyards, design institutes, brokers, licensees and distributors.

We are finally beginning to see promising prospects in the shipbuilding industry, which has been in recession for quite some time. I will join hands with our Chinese



Shanghai City



(From the left) Yi Liulin / Shi Hao / Jian Liyi, Manager / Takuya Matsunaga, Vice General Manager / Hiromichi Tsuji, Senior Engineer / Masaki Okazato, Deputy Manager

staff members in our marine business, and we will aim to become resident officers who are loved by everyone. We look forward to your guidance in this respect.

If you plan to be in Shanghai, please feel free to drop by our office. We look forward to seeing you here. Xiexie (thank you)!

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Mitsubishi Marine Energy & Environment Technical Solution-System

Only One to the Seas of the World

4th Issue October 2013

Globalization to be Accelerated Under the Strong and Responsive New Company

Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd. Established

With Renewed Resolve

We will utilize the responsiveness of the organization for further reinforcement and acceleration of measures.



President & CEO
Kazuo Soma

My name is Kazuo Soma, and I have been appointed the first President & CEO of Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd., (MHI-MME) which was launched on October 1, 2013. I would like to offer you my greetings at the establishment of this business company.

We, the executives of Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd., will aim for a highly mobile company by taking proactive steps to bring us closer to our customers and promoting communication so that we may achieve swift decision-making and action. Meanwhile, in terms of research and development, procurement and manufacturing, we will continue, as before, to uphold the collaboration and division of duties with Mitsubishi Heavy Industries so as to maintain the same high quality as we have consistently delivered.

Our vision is expressed in the three basic strategies that we had been pursuing as MHI's Marine Machinery & Engine Division, precursor to this new company. They are: "Project MEET," which we propose as solutions focused around energy-saving, green technology; "globalization" through collaboration with not only domestic but also overseas manufacturing partners; and "service reinforcement," for the provision of secure and speedy services to our customers. My promise to you is that we will maintain and uphold these basic strategies under the new company and aim to become a company that is appreciated and trusted by its customers.

About us

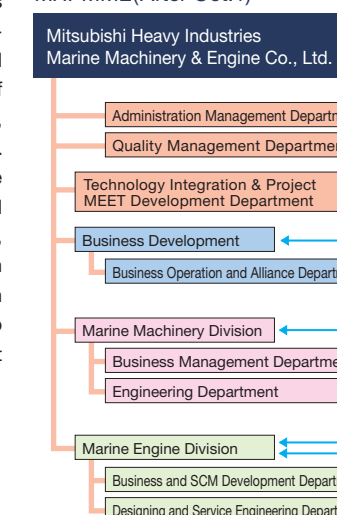
Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd. was established as a split-off of the Mitsubishi Heavy Industries' Marine Machinery & Marine Engine business operation and its integration with MHI Diesel Service Engineering Co., Ltd. (MHI-DSE). It is a wholly-owned subsidiary of Mitsubishi Heavy Industries that handles the development, design, marketing, after-sales service and licensing activities of marine machinery and engines.

Organizations from the days as an MHI business unit were kept, while corporate and other divisions were newly added. Some organizational restructuring also took place. With its new start as an independent company, Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd. will maintain close collaborations with parent company Mitsubishi Heavy Industries in areas including R&D, procurement and manufacturing, and it will continue to realize operations similar to those of the past. The locations and contact information of various offices will remain unchanged for the most part, with only the Yokohama organizations moving to Shinagawa, Tokyo.

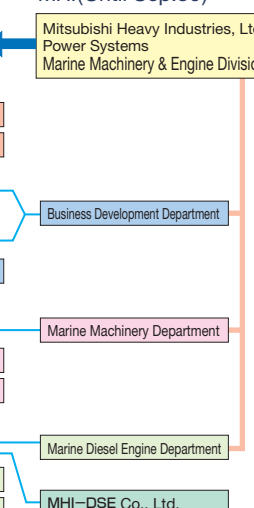
Corporate Overview

Trade Name: Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd.
Capital: 1 billion yen (As of October 1, 2013)
Number of Employees: 286 (As of October 1, 2013)
President & CEO: Kazuo Soma

MHI-MME (After Oct. 1)



MHI (Until Sep. 30)



For inquiries, contact:

Mitsubishi Heavy Industries Marine Machinery & Engine Co., Ltd.
16-5 Konan 2-chome, Minato-ku, Tokyo 108-8215
(Mitsubishi Heavy Industries Head Office Building)

URL : www.mhi-mme.com
E-mail : info_meet@mhi-mme.com

A Shipping Company that Owns and Operates a
Diverse Fleet of Ships Adapted to Marine Transport Needs

Interview with Shunichi Arisaka, Managing Executive Officer, Kawasaki Kisen Kaisha, Ltd.

The business of marine transport is to provide services
that meet existing needs. Basically speaking,
there is a need to do anything that is called for.

The Frontier Spirit of Mitsubishi Heavy Industries

— Can you tell us about any memories you
may have regarding Mitsubishi Heavy
Industries' products?

Arisaka: I'd like to tell you about a memory
of mine related to MHI's ship and ocean
division. It goes back to about 1993 when
Kawasaki Kisen ("K" Line) ordered to MHI
what was then probably the world's first
Capesize Dunkirkmax bulk carrier, and it
was being built at the Nagasaki Shipyard.
The aim was to make this the largest ship
within the maximum size allowed for the
port of Dunkirk in France, which is an
important base for the European steel
industry. Amidst strict restrictions related
to length, breadth, depth and draft, the ship
was designed with a wide assortment of
ingenious measures applied to the hull,
which made it an innovative ship for the
transport of vast quantities of ore and coal.
This type of ship was later built at many
shipyards, but the one built by MHI was
epoch-making in that it was the first of
what later came to be called Dunkirkmax
bulk carriers.

With a temporary appreciation in the
value of the yen at the time, MHI was proac-
tively promoting the overseas purchasing
of outsourced items in order to turn such
expenses into dollar-based costs. As part
of this, MHI proposed that the hatch cover,
which was a large-scale top hamper of
this ship, be manufactured in China. The
purchase and import of overseas products
are, of course, common practices today.
However, I don't think there was any
precedent at the time of importing a major
piece of a ship being built in Japan from
China. MHI expressed a strong desire to
do this, so I decided to go to Zhangjiagang,
where the hatch cover was being
manufactured.

Today, you can travel from Shanghai to
Zhangjiagang by expressway in about an

hour and a half. However, it was not as easy
to get around in China at the time, so back
then, even if you left Shanghai at 4:00 a.m.,
you had to drive on open roads for a
grueling six hours. In those days, Zhangjia-
gang was a peaceful countryside, and I
recall there were farms there where fields
were still being ploughed by oxen.

It was in such an environment where
industry had yet to develop, that three
Japanese employees dispatched by MHI
were working frantically, as they led local
Chinese labor in manufacturing the
massive hatch cover. I found the sight not
only very surprising but in a way also
moving. I don't know whether to call it a
spirit of challenge or a pioneering spirit, but
it did make me feel that in achieving goals,
MHI had the capacity and the personnel to
implement matters without being caught
up in short-viewed conventional thinking.
I don't think there were any other
companies in Japan at the time with that
kind of vision and the capacity to carry
such things through.

— Although it is taken for granted today,
you could say that MHI was a pioneer
among Japanese companies in the
advance into China.

— Moving on to a different topic, the "K"
Line has been involved in environmental
conservation for some time, hasn't it?

Arisaka: Ships are said to be a mode of
transport that leaves the smallest environ-
mental footprint as compared with other
modes such as trucks, trains and airplanes.
Even so, the environmental effects of the
emissions from the use of bunker fuel oil
cannot be totally prevented. In particular,
the sulfur oxide (SOx) and nitrogen oxide
(NOx) contained in emissions can cause
acid rain, which leads to the destruction of
forests. For this reason, there are strict
regulations in place along the coasts of
Northern Europe and the United States for
the control of emissions from ships. "K" Line

has been issuing instructions for the slow
steaming of its ships in service in these
coastal waters to reduce the amount of
emissions. These efforts have been recog-
nized, and "K" Line has received the Port of
Long Beach Green Flag Award for eight
consecutive years. In 2012, "K" Line had a
ship speed reduction program compliance
rate of over 99% within 20 nautical miles
of the port.

Although California is well-known for
having strict environmental regulations, the
state also provides incentives, such as
reductions in dockage and wharfage rates,
to vessels that implement excellent environ-
mental measures. We would therefore like
to continue these activities. At the same
time, we also believe that it is important to
build and maintain good relationships with
port authorities and local governments
through such activities.

— It is indeed a wonderful corporate social
responsibility (CSR) activity that brings
about benefits to your own company while
also contributing to the regional and global
environment.

Arisaka: We have also recently begun
initiatives for the preservation of "satoyama"
[editor's note: literally "village mountain," the
term refers to locally maintained mountain-
sides that border villages]. It is an environ-
mental conservation activity in which
employees are carrying out maintenance
of "K"Line-owned idle property located
close to Narita Airport to turn it into a
"satoyama". The company president also
participated in this activity and worked
up a sweat during a May weekend. It has
become a very significant activity for the
company.

— Yes, CSR activities are very important
these days, aren't they? I have heard that
when selecting main engines to be
constructed in China, overseas ship owners
that MHI has dealings with also evaluate the
CSR activities being carried out by the
engine manufacturer.



The UST Valued for High Reliability Requiring Virtually No Maintenance

— MHI has many environmental products,
and the new MAP Mark-W propeller and VTI
turbocharger are examples. These products
are also suitable for slow steaming.

Arisaka: Slow steaming, which I mentioned
earlier, is the simplest and an effective
method for conserving energy and fuel
expenses. With the skyrocketing fuel
expenses of recent years, "K" Line carries
out slow steaming proactively not only while
operating along coasts but also while
shipping in the high seas.

Slow steaming means operation of engines
and propellers outside of the load range for
which they were designed. There is therefore
room for improvement in that the slow
steaming is not a point of best efficiency.
By making high-efficiency propellers and
expanding the designed load range to
include slow steaming, it becomes possible
to achieve high efficiency even at reduced
speeds. I think it is a technology in which
energy conservation can be easily
perceived. I would like to see research
continued for propellers that will perform
very efficiently even under high and low
loads. Furthermore, the VTI turbocharger is
a technology that is a perfect fit for engine
slow steaming. It has a simple structure
and feels reliable. "K" Line is expanding its
use.

— "K" Line will be participating in the
transport of LNG from the Ichthys LNG
Project. In June, you decided to build a
new LNG carrier with the UST (Ultra Steam
Turbine Plant). Various measures have
resulted in 15% higher thermal efficiency
in the UST as compared with conventional
steam turbines.

Arisaka: "K" Line has a long history of
operating LNG carriers. In terms of the
propulsion engine, we have experience in
both steam turbine and dual-fuel diesel-
electric (DFDE) propulsion, and know the
benefits and disadvantages of each type
of propulsion.

DFDEs are very good in terms of fuel
consumption. However, the diesel engines
have more than 40 cylinders, so they
admittedly have a problem in terms of
maintenance. Meanwhile, as a turbine
engine, USTs require virtually no mainte-
nance and are highly reliable. Furthermore,
they incorporate technology that enables
high efficiency and fuel conservation
performance competitive with DFDEs.
We have a high opinion of USTs.

— We feel highly honored to be valued by
a company like yours with experience in
multiple propulsion systems.

Expansion Hoped for the Offshore Development Business

— Can you tell us about the offshore
energy development market?

Arisaka: If you look at market size in terms
of the size of the market for building new
ships, the market for commercial vessels
currently valued at 8.1 trillion yen is expected
to grow to 9 trillion yen by around 2020.
On the other hand, the offshore/oceanic
development business is expected to
roughly triple from the current 3.8 trillion
yen to 10.8 trillion yen in 2020. The growth
rate of the offshore development business
is explosive as compared with commercial
vessels. The mining of energy resources, rare
metals and rare earth elements will probably
move from land to the coast, and then ever
deeper and farther into distant seas.
Because business fields will increasingly
expand going forward into fields related to
offshore development, I think that it is only
natural as a company that makes its living
from the seas for us to take notice of this
point.

In 2007, we established a company in
Norway that is dedicated to the offshore
development business. It differs totally from
the commercial vessels shipping industry in
which customer cargo is transported to a
destination and services that match a
customer's objective are provided.

For example, offshore support vessels
for offshore platforms must basically do
anything, from the supply and transport of
equipment, pipes and chemicals for drilling
to the replenishment of food supplies. The
business model is also one with high risks
and returns, and it takes many years and a
good track record before the trust of custom-
ers is won. In fact, we, too, experienced a
great deal of hardship in the beginning.

From this year, we have been chartered by
Brazil's Petrobras, and a deep sea drillship is
now steadily in operation about 200 to 300
kilometers off the coast of Rio de Janeiro,
drilling at a depth of about 2,000 meters. This
area is a massive carbonate rock bed known
as a pre-salt layer and contains vast amounts
of oil and natural gas at a depth of between
3,000 and 5,000 meters below the seabed.
Every day, about 60 drill ships are carrying
out exploratory drilling for the development
of a new oilfield. The chartered drillship has
an extremely good operating rate, and it
seems that an internal evaluation carried out
by Petrobras has assessed it the best among
the drillships being operated for this project.

— We think that MHI's marine equipment
must make a further advance into this field.
MHI possesses core maritime technology,
and we supply boilers, etc., to ships
equipped with compressors as well as those



"K" Line's offshore support vessel at work

requiring a large amount of electrical power.

Arisaka: There are unique requirements
and technology necessary in offshore
development, and there are special equip-
ment and devices that have been cultivated
and developed accordingly.

The development of highly advanced,
specialized and dedicated equipment with
clear intentions and targets is required in
order to enter this field. While I will not go as
far as to say that MHI should carry out
in-house development of drilling equipment,
perhaps you may consider advancing into
fields such as propulsion (azimuth thrusters,
electric propulsion and thrusters), position
control (dynamic positioning system) and
even underwater robots as new forms of
MHI's technological development.

Expectations for Mitsubishi Heavy Indus- tries Marine Machinery & Engine Co., Ltd.

— Lastly, could you tell us what your expec-
tations are for Mitsubishi Heavy Industries
Marine Machinery & Engine Co., Ltd., which
will be established on October 1 this year?

Arisaka: I look forward to seeing your
company becoming lighter on its feet. It
would make us very happy to see you
become very customer-centric and
someone that we could consult with on any
problems that we may have. Generational
turnover has progressed at our company,
so that the majority is now young people
with less experience.

— It would be our pleasure, and we will do
our best to fulfill your expectations. Thank
you very much for your time today despite
your busy schedule.

UST: Ultra Steam Turbine
DFDE: Dual Fuel Diesel Electric

Arisaka : Mr. Shunichi Arisaka
Director and Managing Executive Officer
Kawasaki Kisen Kaisha, Ltd.

Interviewer : Tomoo Kuzu
Head of Business Development,
Mitsubishi Heavy Industries
Marine Machinery & Engine Co., Ltd.

Evolution of the Next Generation UE Engine

Development of the latest UE Engine - the LSH Series

To Be Launched in Early 2015 as the UEC50LSH-Eco

MHI has completed the lineup of its LSII and LSE UE engines series, offering UE engines with bore sizes of between 33cm and 85cm. These engines are being selected to both large and small ships, to favorable reviews.

Meanwhile, recent market needs for engines have become diversified. It includes low-fuel consumption engines, slow steaming engines, low-speed engines, and engines meeting emission regulations. In order to meet demands, MHI began development of cutting-edge engines that are loaded with the latest technology that it has cultivated up to now.

The latest series in UE engines is called UEC-LSH. We are scheduled to launch the first engine of this series – the UEC50LSH-Eco – in early 2015.

About the UEC50LSH-Eco Engine

Based on rigid market surveys, the UEC50LSH-Eco engine has the optimal output and speed to power Handymax and Supramax bulk carriers as well as medium-range(MR) tankers. Table 1 shows a comparison of the UEC50LSH-Eco with other manufacturers' engines of the same bore size.

An engine fuel consumption rate(stand-alone) that is overwhelmingly superior to other engines will be achieved, in addition to which long strokes and low speeds will realize enhanced propeller propulsion efficiency, further reducing the amount of fuel being consumed.

Following development of the UEC50LSH-Eco, the concept will be gradually expanded into other engines and provided, together with our licensees, as the LSE and LSH series.

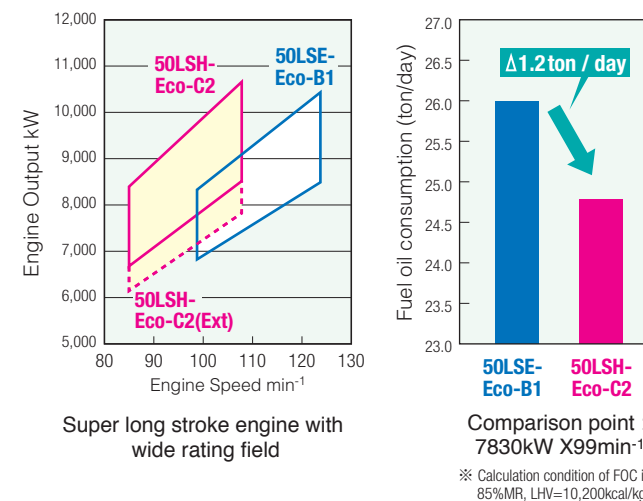


Table 1. Principal Particulars of the UEC50LSH-Eco

Engine type		6UEC45LSE-Eco-C2	Other manufacturer's engine	
Bore	mm	500	500	500
Stroke	mm	2,300	2,500	2,214
Bore/stroke ratio	—	4.60	5.00	4.43
Output	kW	10,680	10,320	10,680
Engine speed	min ⁻¹	108	100	117
Mean effective pressure	MPa	2.19	2.10	2.10
Fuel consumption rate*1	g/kWh	164	167	168
Weight	ton	225	260	225

*1 : Under IMO-NOx regulation Tier2 with 5% tolerance

Development Concept

Energy-saving and environmentally friendly

- Overwhelmingly low fuel consumption
- Slow steaming capable
- Electronically-controlled, new concept (Eco-Engine)
- Cylinder oil reduction through the A-ECL oil injection system NOx Tier3-capable options

Easy Maintenance, High Reliability

- Extended maintenance intervals
- Proven, new-concept combustion chamber structure Engine diagnostic system (Option)

Compact Engine for Versatile Rigging

- Engine with a compact design smaller than same-class competitor engines
- Wide rating settings (Wide range of possible outputs and speeds)
- Low vibration (Minimization through added vibration countermeasures)
- Reduced auxiliary engine bulk as compared to same-class competitor engines
- Reduced electronic wiring and devices

MET Turbocharger, more simple, more economical

Electric Power-Assisted Turbocharger

Reduces Power Consumption and Raises Reliability during Slow Steaming

Retrofitable

Slow steaming is being adopted by many ships in order to reduce fuel consumption, and the low-speed engines used for propulsion are often operated at less than half their rated output. Under such circumstances, air with sufficient pressure cannot be obtained with turbochargers alone — the help of electric auxiliary blowers for engines are required. However, auxiliary blowers consume a large amount of power. What is more, they were not designed with extended consecutive operation in mind, so there is also concern of their reliability over the long-term.

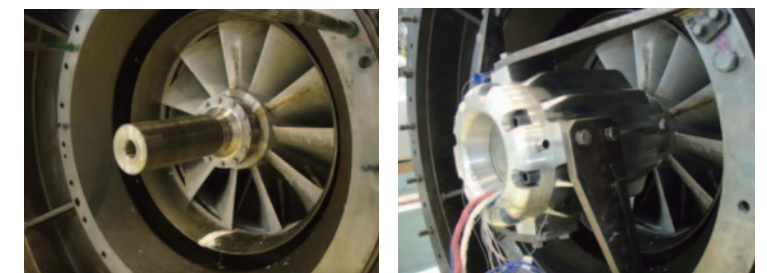
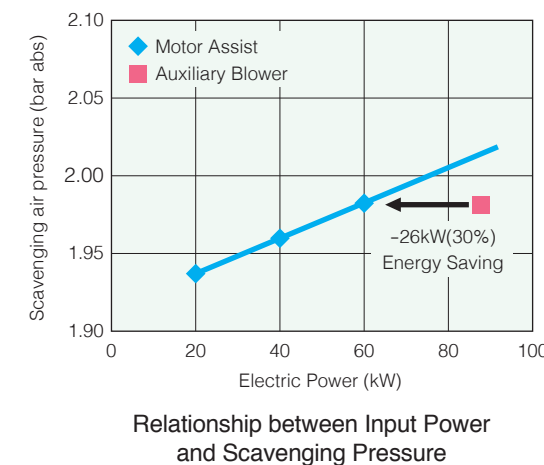
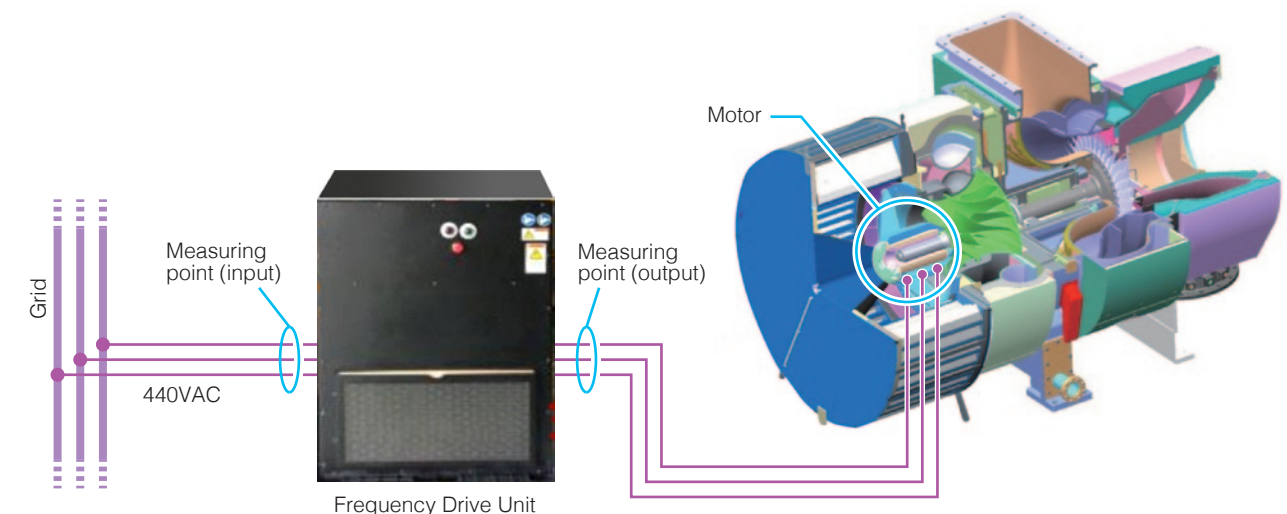
Aiming to achieve energy-savings and reliability during slow steaming, we have developed the electric power-assisted turbocharger jointly with Calnetix Technologies of the U.S., a company known for its development of high-speed generators for hybrid turbochargers.

In this electric power-assisted turbocharger, a drive shaft with a powerful permanent magnet is attached directly to the end of the rotor axle of a conventional MET turbocharger.

A coil that provides the torque is attached outside. Because of its simple structure, the electric power-assisted turbocharger can be easily retrofitted on ships in service.

By sending power during slow steaming that is optimal to the speed, the turbocharger rotor is accelerated giving it the required air pressure in necessary amounts even during operation at slow speeds. The drive shaft is supported by the turbocharger rotor axle, so there is no need for additional axle bearings or cooling systems, which means there is no excess power loss or parts that will be worn down over time. Furthermore, the power input to the coils is used for air compression by the high-efficiency turbocharger compressor resulting in required scavenging pressure at about 30% less power consumption than with auxiliary blowers.

Going forward, power supply systems will be revised to specifications that are optimal for ships. Following a sea trial, they will be successively launched beginning with the MET83MA and MET83MB.



Drive Shaft and Coils on a Test Unit

Yoowon Industries Ltd.

Making the Collaborative Relationship Stronger through Technical Support for Steering Gear

Yoowon Industries, established in February 1977, is a company located in Busan, Korea. MHI tied a licensing agreement for Rapson-slide steering gear with Yoowon Industries in August 1993, and this year marks a 20-year milestone for the collaborative relationship. Yoowon Industries has an established market position as a leading steering device manufacturer in Korea, which plays a central role in today's global shipbuilding market.

Orders for the licensed steering gear number between 150 and 200 each year, and Yoowon Industries has a solid track record of sales to Hyundai Heavy Industries, Daewoo Shipbuilding & Marine Engineering, Samsung Heavy Industries,

CSBC and other shipyards located in Korea and Taiwan. One of the characteristics is that the output torque is in the 225kN-m to 9,807kN-m range, enabling consistent response for small to large steering gear. They can be supplied regardless of ship type or size, from bulk carriers and container ships to oil tankers and LNG carriers.

Going forward, we will make our collaborative relationship even stronger by providing technical support for steering gear. We will continue offering unchanging support to help make Yoowon Industries' position in the Korean and Taiwanese steering gear market unshakable.



Young-Jun Kwon, CEO



Yoowon Plant (Busan, South Korea)

Jiujiang Haitian Equipment Manufacture Co.,Ltd.(JHT)

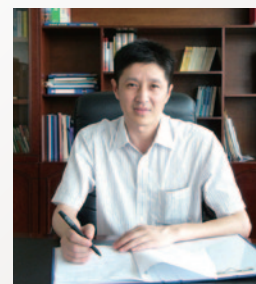
Supplying 2t/h to 55t/h Evaporation Marine Boilers

Jiujiang Haitian Equipment Manufacture Co.,Ltd.(JHT) is a marine equipment manufacturer affiliated with the China State Shipbuilding Corporation(CSSC), which is a shipbuilding group with the largest shipbuilding capacity in China. JHT was established in 1970 and is headquartered in Jiujiang, Jiangxi, China. Its core products are marine pressure containers. Employees number about 800.

JHT had wanted to add marine boilers with an established market reputation to its product lineup. Meanwhile, MHI was seeking to achieve greater penetration in the robustly expanding Chinese shipbuilding market with its marine boilers. This resulted in the February 2011 conclusion of a marine boiler licensing agreement between the two companies.

The license is for the manufacturing and marketing in China of five MHI marine boiler products(MC-D,MCC,MJC,MAC and exhaust gas economizer) covering evaporation amounts of between 2t/h and 55t/h.

Leveraging its strength as a CSSC affiliate, JHT has already received orders for multiple projects. Its first boiler was completed and delivered to a shipyard in July 2013. More boilers are scheduled to be shipped, one after another. We will provide further support to help JHT become China's No.1 marine boiler manufacturer.



Yu Ping, Chairman



JHT Plant (Jiujiang, Jiangxi, China)

Project MEET Activities, Entering its Fourth Year

A Stream of Project MEET Products Being Delivered

We are now in our fourth year since we began our activities under Project MEET. We are happy to report that during this time, we have been able to send many MEET products out into the seas of the world.

The Maersk Mc-Kinney Moller, the Maersk Line's first Triple-E class container ship, entered service on July 2, 2013. It is installed with the MERS (STG) system, which we introduced in

the first issue of MEET News. Adopted to equip Maersk's Triple-E class of container ships, there are orders for the installation of the MERS(STG) system in a total of 69 ships, including Triple-E containers. Negotiations are also currently underway for installation in large-scale containers being planned by overseas ship owners.

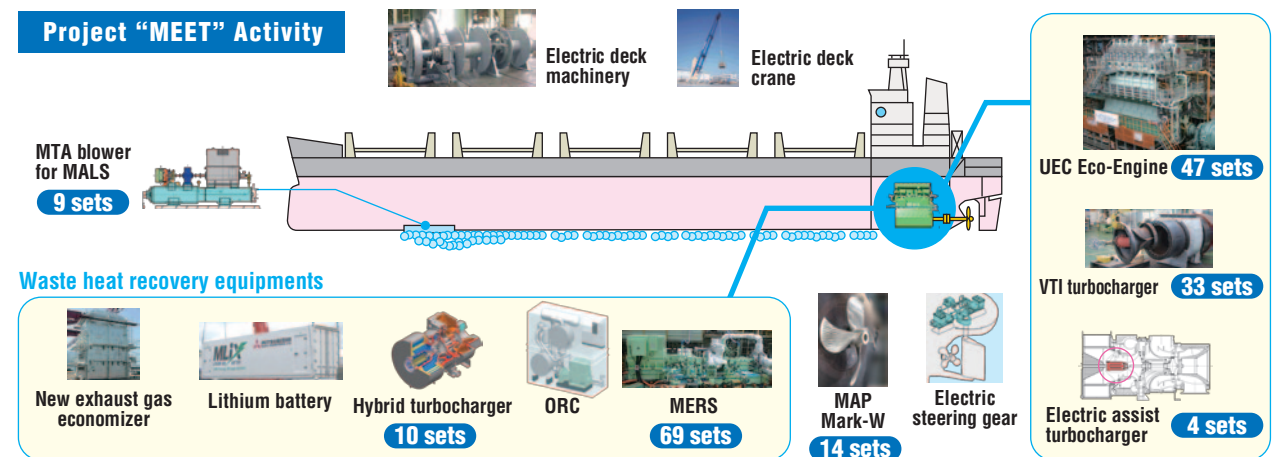
We also have orders received for 47 UEC-Eco engines, 33 VTI turbochargers,



MAERSK LINE / Maersk Mc-Kinney Moller
[Applied MERS(STG) System]

ers, 10 hybrid turbochargers, 14 Mark-W propellers and 10 UST plants. We will continue to proactively promote the proposal of our solutions business through the expansion of MEET product sales.

Project "MEET" Activity



First UEC35LSE-Eco Engine Completed

Responding to High Fuel Prices and Stricter Environmental Regulation Needs of Small-and Medium-sized Ships

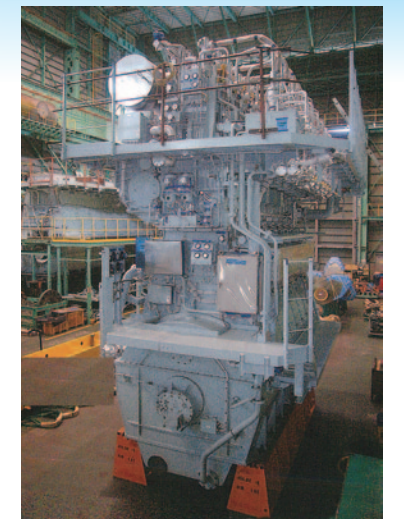
The UEC35LSE-Eco engine offers an output and speed that are optimal for a wide variety of small- and medium-sized ships including ferries, RORO ships, 20,000dwt-class bulk carriers, 15,000dwt-class chemical tankers, small LPG carriers and cement carriers. The first of these engines, developed as a cutting-edge engine that responds to skyrocketing fuel prices and stricter environmental regulations, was recently completed.

The first 6UEC35LSE-Eco-B2 will be installed as the main engine of a Tokai Kisen Co., Ltd.'s passenger-cargo ship being built at Mitsubishi Heavy Industries' Shimonoseki Shipyard. The ship is scheduled to begin operation

in July 2014 on a route between Tokyo and the Izu Island chain.

An electronic control system simultaneously enables green performance, such as NOx and smoke reduction, and high efficiency according to engine speed, engine load and ambient conditions like outside temperature as well as the characteristics of the fuel being used. This has been validated through dry-land verification testing of this first 6UEC35LSE-Eco-B2.

Conventionally, a medium-speed 4-stroke engine was installed as the main engine of small-sized ships. However, there is an increasing need to replace them with fuel-efficient low-speed 2-stroke engines. We will



UEC35LSE-Eco

respond to such customer needs with certainty through the launch of UEC35LSE-Eco engines.