

OFFSHOREMARINE

A newsletter of Keppel Offshore & Marine

Issue 1 / 2019

MCI (P) 073/01/2019

An aerial photograph of a large offshore vessel, likely a gas carrier, viewed from above. The vessel is oriented vertically in the frame. It features several large, cylindrical red storage tanks arranged along its length. The deck is densely packed with various structures, including cranes, piping, and smaller equipment. The vessel is situated in the middle of a vast, dark blue ocean with visible whitecaps. The overall scene is captured from a high-angle perspective, showing the full length of the ship and its surrounding environment.

**CHOICE
PARTNER
FOR GAS
SOLUTIONS**

CONTENTS

Transforming for growth	3
Flying ahead with gas solutions	6
Hitting project milestones	7
Aftermarket services	8
Committed to safety	9
Leading in Qatar	10
Solutions for the Arctic	11
A future ready workforce	15
Strengthening compliance	18
A generation of firsts	19
Caring for the community	20
Auspicious start	22
Provider of choice	24

CENTRESPREAD

2018 in review	12
----------------	----

INNOVATION

Striving for innovation	16
-------------------------	----



Keppel O&M is leveraging its expertise in ice-class vessels to develop solutions for the Arctic. This was presented at the Arctic Frontiers conference in Tromsø, Norway.

EDITORIAL BOARD

EDITORIAL ADVISOR

Chris Ong

EDITOR

Ang Ting Yang

ASSISTANT EDITOR

Lee Wan Jun

COMMITTEE MEMBERS

Chor How Jat, Abu Bakar Mohd Nor, Tan Leong Peng, Dr Foo Kok Seng, Aziz Merchant, Hoo Yao Lin, Alan I. Claveria, Li Gang, Brian Lee, Roy Tan, Ana Luisa Cruz, Glenda Yang, Emmeline Khoo, Ching You Yi

OffshoreMarine is a quarterly publication of Keppel Offshore & Marine Ltd
50 Gul Road, Singapore 629351
Tel: +65 6863 7200
Fax: +65 6261 7719 / 6265 1927

Company registration no. 199900642R

Keppel Offshore & Marine is a subsidiary of Keppel Corporation

Transforming for growth

Notwithstanding the recent volatility in oil prices, there is growing optimism in the offshore & marine sector. *OffshoreMarine* reproduces extracts of the speech by Mr Loh Chin Hua, CEO of Keppel Corporation and Chairman of Keppel Offshore & Marine, at the Company's 4Q & FY 2018 results webcast and briefing to media and analysts.

Notwithstanding the recent volatility in oil prices, there is growing optimism in the O&M sector, with more projects sanctioned at oil prices of between US\$55 and US\$65 a barrel. With the gradually declining rig supply overhang, as well as increased tendering activity, there are signs of improvements in the offshore rig sector, though we do not envisage a V-shaped recovery.

In the immediate future, we are cautiously optimistic about the offshore production market. We see opportunities in FPSOs,

especially conversions, with several projects approaching Final Investment Decisions (FID) in 2019 and 2020. Global demand for gas, led by Asia, continues to grow, with a few FSRU projects also targeting FID later this year. Keppel Shipyard has also seen a pick-up in ship repair works boosted by exhaust gas scrubber retrofits. We secured 65 of such contracts last year from a variety of customers.

Keppel O&M made a profit at both the operating and attributable levels for the full year, excluding RIDs, on the back of our extensive

rightsizing efforts and new contract wins. However, the Division registered a loss of \$109 million, after provisions, including an additional provision of \$167 million for expected losses on the rigs for Sete Brasil, partially offset by write-backs for provisions for claims.

We secured new contracts totalling \$1.7 billion in 2018 which is more than the \$1.2 billion of new orders won in the whole of 2017. Significantly, LNG and scrubber

Continues on page 4...



Keppel O&M secured new contracts totalling \$1.7 billion in 2018, more than \$600 million of which are from LNG and scrubber projects

Continued from page 3.

projects made up more than \$600 million of the new contracts secured in 2018. Keppel O&M's net order book has grown to \$4.3 billion as at end-2018, compared to \$3.9 billion at end-2017.

Keppel O&M has received a limited notice to proceed from Golar LNG to commence early conversion works on Golar Gimi for BP's Greater Tortue-Ahmeyim field. Full construction activities will commence when Keppel Shipyard receives the final notice to proceed.

Hilli Episeyo, the world's first converted FLNG vessel which we delivered in late 2017, has maintained 100% uptime since she began commercial operations and has despatched 13 LNG cargoes to date. Hilli's successful proof of concept as a quick and cost-efficient solution for monetising stranded gas reserves continues to add momentum to new opportunities in the liquefaction vessel space.

The Group remains committed to putting in place effective and robust compliance and governance regimes and discharging the undertakings given as part of the 2017 global resolution Keppel O&M had reached with the relevant criminal authorities. The enhancements to the compliance processes and procedures included increasing the resources of the Group's internal audit function and conducting



Keppel O&M works closely with customers to deliver solutions and ensure excellent project execution

anti-corruption compliance audits. In 2018, Keppel O&M engaged an ISO 37001 consultant to conduct a risk review and audit of anti-corruption compliance at Keppel O&M and in November 2018, Keppel O&M's entities in Singapore achieved certification for the ISO 37001 Anti-Bribery Management System. We will continue to strengthen our policies and procedures to ensure that we win business legally and ethically.

PURSUING GROWTH OPPORTUNITIES

Notwithstanding the challenging macro environment, urbanisation trends continue to present many exciting long-term opportunities for Keppel, whether it is providing energy, property, environmental solutions or connectivity.

We will remain focused on building a nimble and agile Keppel, ready to seize opportunities in our existing businesses even as we grow new engines for the future. We will also further strengthen collaboration, both within the Group and with third parties, to provide more robust solutions to shape a sustainable future.

IN CONVERSATION

OffshoreMarine shares highlights of management's responses to questions from the media and investment community at the Company's 4Q & FY 2018 results briefing.

Q: What is the outlook for the Offshore & Marine (O&M) business in 2019? Is profit sustainable, and can we expect a higher volume of order wins?

LCH: Keppel O&M had undergone a few years of rightsizing to lower its operating leverage. We are pleased that we were able to break even last year, and make a small profit before impairments. If things start brightening up and we get more orders, that will flow to our bottom line. We hope for the best, but we do not expect a V-shaped recovery.

CO: Based on the developments of oil majors, we expect to see more projects coming online with final investment decisions slated in 2019 and 2020. We are optimistic. And at the same time, Keppel O&M is also expanding beyond oil and

gas and is looking at renewable energy.

Q: On Gimi, what does the limited notice to start work mean? Are you starting work on it? what is the status of the third vessel, Gandria?

CO: The limited notice to proceed includes front-end engineering, ordering of some long-lead items and limited works on the vessel itself. BP has announced that they will take about another quarter to put all the contracts in place. So for the next four months, we will be embarking on all our front-end work on the vessel, while waiting for the full notice to proceed. Gandria's contract has been extended by Golar and we are in talks with Golar about the potential deployment of the vessel itself. This is ongoing and we will

inform when there are material developments.

Q: What does the management think worked for Keppel O&M in 2018 in securing the new orders?

LCH: Besides rightsizing Keppel O&M, we have also integrated Keppel O&M. The three business units are now working closely as one Keppel O&M. They are sharing resources and construction methodology, and there are a lot of synergies that have been derived these couple of years.

We have put ourselves in a very competitive position and we are waiting for the market to come back.

CO: What worked for us in 2018 is that we stuck to our core competency, worked on our people, and worked closely with our customers. We have been working at the front end with a lot of our customers, which show for some of repeat orders from returning customers.

At the same time, we are investing in our people and in our existing facilities with new digitalisation tools, while ensuring that we are cost-efficient.

LCH – Mr Loh Chin Hua,
CEO of Keppel Corporation

CHC – Mr Chan Hon Chew,
CFO of Keppel Corporation

CO – Mr Chris Ong,
CEO of Keppel Offshore & Marine



Keppel O&M is leveraging technology such as specialised drones to improve operations, processes, safety and efficiency

Flying ahead with gas solutions



The FLNG Hilli Episeyo has been a successful proof of concept as a quick and cost-efficient solution for monetising stranded gas reserves. It has maintained 100% uptime since commencing commercial operations in June 2018 and consistently despatched two LNG cargoes each month



Keppel Shipyard has received limited notice to proceed to commence early conversion works for FLNG vessel Gimi

Keppel Shipyard has received a limited notice to proceed from Golar Gimi Corporation, a subsidiary of Golar LNG Limited, to commence early conversion works for the floating liquefaction vessel Gimi. The project will take place over a period of up to four months, worth up to \$50 million.

Expected to start production in 2022, Gimi will liquefy gas as part of the first phase of the Greater Tortue Ahmeyim project and will be located at a nearshore hub located on the Mauritania and Senegal maritime border.

The FLNG is designed to produce an average of approximately 2.5 million tonnes of LNG per annum, with the total gas resources in the field estimated to be around 15 trillion cubic feet.

Full construction activities, further to the early conversion works under the LNTP, will commence when Keppel Shipyard receives the final notice to proceed.

In 2017, Keppel Shipyard had delivered Hilli Episeyo, the world's first converted FLNG vessel. The vessel is operating successfully in offshore Kribi, Cameroon, for Société Nationale des Hydrocarbures and Perenco Cameroon SA.

Hitting project milestones

Keppel Offshore & Marine (Keppel O&M) has developed strong capabilities in the design and construction of high-quality assets such as rigs and vessels. Over the past quarter, the New Builds Division marked important milestones for several projects, which will further bolster the Group's track record.

In December 2018, Keppel FELS held the strike steel ceremony for the mid-water harsh environment semisubmersible (semi) drilling rig to be built for Awilco Drilling PLC. The semi will be built to Moss Maritime's CS60 ECO MW design, configured and outfitted for mid-water operations of up to depths of 1,500m.

In January 2019, Keppel Singmarine advanced its track record in the construction of dual-fuel vessels with the keel laying ceremony for Singapore's first dual-fuel bunker tanker. The 7,990 DWT bunker tanker will be owned and operated by Sinanju Tankers Holdings Pte Ltd.

In the same month, Keppel Singmarine held the strike steel ceremony for South East Asia's first LNG bunkering vessel to be built for FuelNG, a joint venture between Keppel O&M and Shell Eastern Petroleum (Pte) Ltd. The 7,500m³ dual-fuel LNG bunkering vessel will be built to the MTD 7500U LNG design, a proprietary design of Keppel O&M's ship design and development arm, Marine Technology Development (MTD).



The mid-water harsh environment semi to be built for Awilco will extend Keppel's strong track record of delivering 25 semis since 2000



Scheduled for delivery in 2H 2019, Singapore's first dual-fuel bunker tanker will deliver marine fuels to ocean-going vessels within local port limits



The strike steel ceremony for South East Asia's first LNG bunkering vessel was attended by representatives from Keppel, FuelNG and ABS, including Mr Saunak Rai (left), GM of FuelNG

Aftermarket services

Keppel LeTourneau Middle East FZE has signed a Memorandum of Understanding (MOU) with Dammam Shipyard to provide a one-stop shop with comprehensive aftermarket services for customers in Saudi Arabia.

Keppel LeTourneau's proven track record and extensive experience, together with Dammam Shipyard's prime location and top-notch facilities, will enable both companies to provide an even higher standard of service to new and existing clients in the Middle East.

Keppel LeTourneau provides end-to-end rig solutions, from rig designs and rig kits to aftersales and aftermarket services.

On top of its presence in the US, United Arab Emirates and Singapore, Keppel LeTourneau is also able to leverage Keppel O&M's network of yards worldwide to be near market and near customer in providing construction or aftersales and aftermarket services.

Dammam Shipyard is located at the King Fahd Ship Repair Complex inside the King Abdul-Aziz Port of Dammam.



Mr Ron MacInnes (right), President, Keppel LeTourneau and Mr Sikke Jan Wynia (left), GM, Dammam Shipyard celebrate the new partnership which would allow both companies to tap on each other's expertise and resources to deliver better solutions for offshore jackup rigs operating in the Middle East

Production barge upgrade

Keppel Offshore & Marine has through its wholly-owned subsidiary, Keppel Shipyard, clinched a contract worth about \$30 million for the modification and upgrading of a production barge for SJ Production Barge, a wholly-owned subsidiary of upstream oil and gas company, KrisEnergy.

Keppel Shipyard's scope of work on the production barge for KrisEnergy includes installation of a power generation module, Electrical House, new accommodation units and other refurbishment works.



Keppel Shipyard will undertake modification and upgrading of a production barge for SJ Production Barge, a subsidiary of KrisEnergy

When completed in or around 3Q 2019, the production barge will be capable of processing up to 30,000 barrels of fluid per day, and equipped with gas, oil and water separation facilities. It will

be deployed in the Apsara oil field, which lies in Block A of the Khmer Basin in the Gulf of Thailand. The field is Cambodia's first hydrocarbon development.

Committed to safety



Onboard the CAN-DO drillship for a safety walkthrough are the senior management of Keppel O&M

CAN DO ON SAFETY

As part of Keppel Offshore & Marine's (Keppel O&M) safety processes, its senior management regularly conduct safety reviews on projects.

On 7 December 2018, senior management of Keppel O&M led by Mr Loh Chin Hua, Chairman of Keppel O&M and CEO of Keppel Corporation, and Mr Chris Ong, CEO of Keppel O&M went onboard the CAN-DO drillship for a safety walkthrough.

The CAN DO drillship is a state-of-the-art exploration, development and completion drilling vessel with comprehensive safety features.

SHARING BEST PRACTICES

Besides internal safety walks,

Keppel O&M also hosts visits from external parties, including customers, partners and industry safety professionals.

One of the visits in late 2018 was by a group of experts from the International Advisory Panel (IAP) for Workplace Safety and Health (WSH) including senior officials from the Ministry of Manpower and WSH Council to Keppel Shipyard. They were there to understand Keppel's initiatives in promoting an injury-free and healthy workplace.

In 2018, the Keppel Group's Board Safety Committee also visited various sites, in Singapore and overseas, to engage operational staff, understand the challenges they face on the ground, and

reinforce key safety messages and guidelines.

GLOBAL REACH

Keppel's commitment to safety extends to its overseas operations. Its worksites participated in a Global Safety Time-Out (GSTO) in July 2018, where work stopped and workers took time out to reinforce their commitment to safe working conditions.

To maximise the impact, this was conducted simultaneously across all business units with activities ranging from safety briefings, tool box talks, safety videos, and sharing of lessons learnt from past accidents.



N-KOM provides a comprehensive range of repair, conversion, maintenance and fabrication services for marine vessels as well as offshore and onshore structures

Leading in Qatar

FIRST FSRU PROJECT

Nakilat-Keppel Offshore & Marine (N-KOM) in Qatar has secured its first floating storage regasification unit (FSRU) project. The vessel, which belongs to Excelebrate Energy (USA), will undergo drydocking, maintenance and upgrading works at the shipyard.

As part of its upgrades, the FSRU will be retrofitted with a ballast water treatment system (BWTS). N-KOM has been building up its expertise in BWTS, having completed six such projects to

date, including for LNG and LPG vessels as well as very large crude carriers (VLCCs).

Nakilat CEO Eng. Abdullah Al Sulaiti said, "We are proud to be entrusted with this repair project from our partner Excelebrate Energy (USA), which is made even more significant since it is the first FSRU to be repaired at our shipyard. This goes to show the remarkable progress the shipyard has made since it first began operations in 2011 to where it is today – a centre of excellence for marine repairs

and offshore fabrication that has safely and reliably delivered more than 880 projects to clients worldwide."

FIRST OFFSHORE LIVING QUARTERS

N-KOM is undertaking the fabrication of the first offshore living quarters in Qatar. The shipyard together with its customer Rosetti Marino had a strike steel ceremony for the project on 9 January 2019.



Rosetti Marino and N-KOM teams celebrated the strike steel for an offshore accommodation platform project

Solutions for the Arctic



Mr Aziz Merchant, ED of Keppel Marine & Deepwater Technology, shared on how Keppel O&M could contribute to the sustainable development of the Arctic region at the Arctic Frontiers conference



Keppel NUS Corporate Lab is looking into the possibility of developing a multipurpose SAR Hub

Keppel Offshore & Marine (Keppel O&M) was invited by the Norwegian Ministry of Foreign Affairs to participate as part of the Singapore delegation in the Arctic Frontiers conference in Tromso, Norway.

Taking place over 20 to 24 January, this year's conference theme is "Smart Arctic", and focuses on how technology could support sustainable development of the Arctic region.

Mr Aziz Merchant, ED of Keppel Marine and Deepwater Technology, spoke at the "Arctic Seaways" session. He shed light on some solutions Keppel O&M

is exploring to support growing and changing Arctic activities.

The melting of the Arctic Sea ice will lead to the increased use of Arctic waters for tourism, shipping, research and resource development.

With more activities in the region, there is a need to further strengthen Search and Rescue (SAR) capabilities and capacities for the Arctic. Keppel O&M and the National University of Singapore (NUS), under the Keppel NUS Corporate Lab, are researching on various Arctic-related topics and are looking into the possibility of developing a multipurpose SAR Hub, which

could consist of floating or near-shore facilities .

Keppel O&M is also exploring the possibility of an Arctic hub to support the tourism sector. The hub could be a floating structure which allows tourists to appreciate the area while minimising impacts.

In the shorter term, Keppel O&M could contribute to Arctic development through a wide range of ice-class vessels. The group has delivered 11 ice-class vessels to-date, and secured a contract to design and build an ice-class liquefied natural gas (LNG) bunker vessel in December 2018.

2018 in review

Q1

Keppel FELS delivered SAGA, the first of five jackup rigs to Borr Drilling safely, on time and on budget.

Keppel FELS secured a contract from Awilco to construct a mid-water semisubmersible drilling rig for harsh environment use.

Q2

Keppel Singmarine received an order from Mitsui & Co (Asia Pacific) to build Singapore's first dual-fuel bunker tanker, to be owned and operated by Sinanju Tankers Holdings Pte Ltd (Sinanju), based on a finance agreement with Mitsui AP.

Keppel Singmarine delivered South East Asia's first dual-fuel LNG tug, KST Liberty, to Keppel Smit Towage on time and with a perfect safety record. The 65-tonne bollard pull LNG dual-fuel Azimuth Stern Drive (ASD) tug was built to Keppel's proprietary design.

Keppel Offshore & Marine (Keppel O&M) signed a Memorandum of Understanding (MOU) with the Maritime Port Authority of Singapore (MPA) and the Technology Centre for Offshore and Marine, Singapore (TCOMS) to jointly develop autonomous vessels for a variety of applications including undertaking harbour operations such as channelling, berthing, mooring and towing operations.

Keppel Singmarine secured contracts from Van Oord to build two high-specification Trailing Suction Hopper Dredgers (TSHDs) equipped with dual-fuel systems capable of running on LNG. The two TSHDs will each have a hopper capacity of 10,500 cubic meters.

Keppel FELS sells five existing rigs, which are currently being built by Keppel FELS to the KFELS B class designs to Borr Drilling.

Keppel Singmarine secured a contract from FuelNG, a joint venture between Keppel O&M and Shell Eastern Petroleum (Pte) Ltd, to build South East Asia's first Liquefied Natural Gas (LNG) bunkering vessel.



SAGA is a KFELS Super B Class rig designed to operate in 400 feet water depth and drill to 35,000 feet



Keppel's proprietary design a dual fuel LNG tug won the Outstanding Maritime R&D and Technology Award at the 2015 Singapore International Maritime Awards

Keppel FELS delivered a second state-of-the-art jackup rig, SKALD, to Borr Drilling safely, on time and on budget.

Q3

Keppel FELS Brasil was engaged by its long-standing customer, MODEC Offshore Production Systems (Singapore) to undertake the topside module fabrication and integration of the FPSO Carioca MV30, a Floating Production Storage and Offloading vessel (FPSO).

Keppel Shipyard was entrusted with the conversion of a LNG Carrier to a Floating Storage and Re-gasification Unit (FSRU) by a leading global operator of oil and gas production vessels.

Keppel O&M signed a Technical Assistance and License Agreement (TALA) with Gaztransport & Technigaz (GTT) that will enable Keppel O&M's network of global yards to offer GTT's LNG systems in the design, construction and maintenance of LNG carriers, LNG



Keppel O&M has a strong track record of having delivered 25 semis since 2000

Bunker vessels, LNG-fuelled vessels, and FSRU.

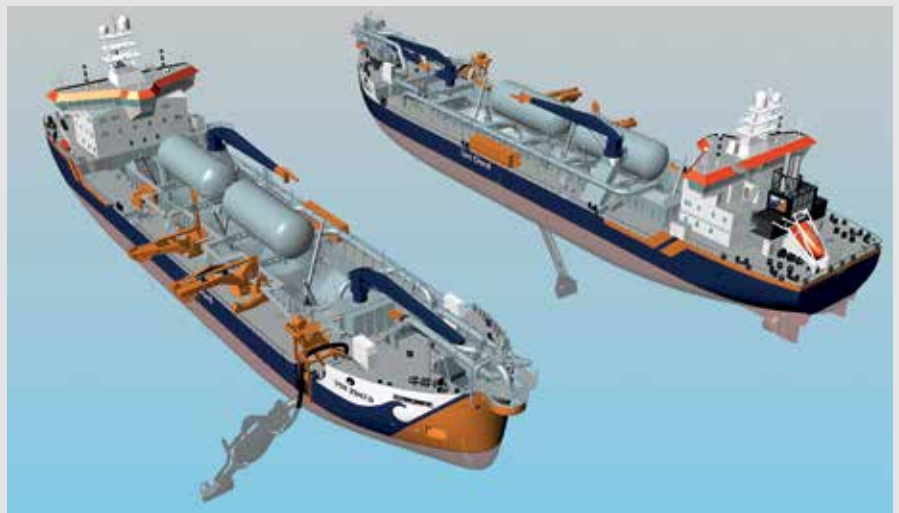
Keppel Singmarine delivered its second dual-fuel tug, named Maju Loyalty, for Maju Maritime. Capable of running on LNG, the vessel was completed on time,

within budget and with a perfect safety record.

Q4

Keppel Shipyard delivered FPSO La Noumbi for a Perenco Group

Continues on page 14...



Keppel Singmarine has secured contracts from Van Oord to build two Trailing Suction Hopper Dredgers



The partnership with GTT will allow Keppel O&M to offer more comprehensive LNG solutions to its customers, across its global networks of operations

Continued from page 13.

project located off the Republic of Congo, Africa – on time and with a strong safety record.

Keppel Singmarine signed two additional contracts with Stolt-Nielsen Gas following the exercise by Stolt-Nielsen Gas of its options to build two additional small-scale LNG carriers. The LNG carriers will be the 4th and 5th vessels capable of LNG bunkering that Keppel will be building.

Keppel Shipyard clinched a contract for the modification and upgrading of a production barge for KrisEnergy. It will be deployed in the Apsara oil field, which lies in Block A of the Khmer Basin in the Gulf of

Thailand. The field is Cambodia's first hydrocarbon development.

Keppel Shipyard has received a limited notice to proceed ("LNTP") from Golar LNG Limited to commence early conversion works for the Gimi FLNG over a period of up to four months.

Keppel Singmarine won a contract with Shturman Koshelev LLC for the design and construction of an ice-class LNG bunker vessel, to be built to its proprietary MTD 5800V LNG design. The vessel will be chartered to Gazpromneft Marine Bunker Ltd (Gazpromneft) for operations in the Baltic Sea.

Keppel Shipyard was awarded a contract with a leading global operator of floating production vessels for the fabrication of a new aft hull for an FPSO.

Keppel Shipyard secured a total of 65 contracts from a variety of customers for exhaust gas scrubber retrofit projects involving project management, integration design engineering, installation and retrofitting, as well as testing and commissioning works.



The conversion of the FPSO La Noumbi was the sixth project Keppel Shipyard has delivered to Perenco



Keppel Shipyard secured exhaust gas scrubber retrofit projects from a variety of customers

A future-ready workforce



The MOU signing ceremony between Keppel O&M and NUS was attended by management from both organisations, including Mr Chris Ong (seventh from right), CEO of Keppel O&M, and Professor Ho Teck Hua (eighth from right), Senior Deputy President and Provost, NUS

As part of efforts to promote continuous learning and prepare employees to take on the fourth industrial revolution, Keppel Offshore & Marine (Keppel O&M) on 23 November 2018 signed a Memorandum of Understanding (MOU) with the National University of Singapore (NUS).

The MOU will enable employees from Keppel O&M to sign up for a range of NUS modules and executive programmes on emerging skills areas such as data analytics, finance, tech-enabled service, cyber security and advanced manufacturing.

These courses are designed with a skills-based and industry-relevant

approach, ensuring applicability at the workplace. About 2000 to 3000 training places will be made available.

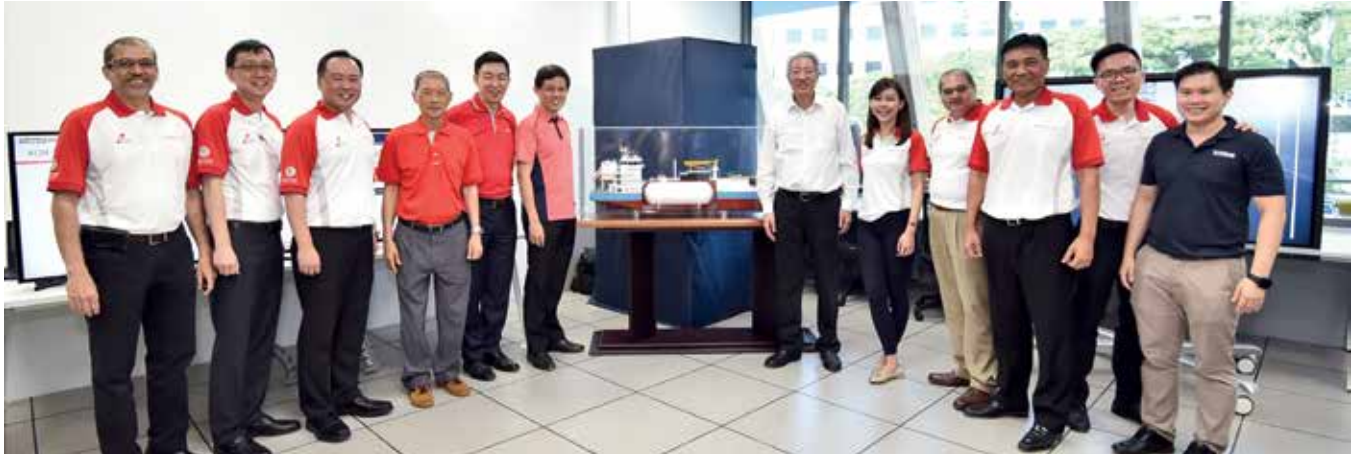
Mr Chris Ong, CEO of Keppel O&M, said, "We invest in our employees so that they are empowered to be agents of change and innovation. We are collaborating with NUS on several fronts, such as the Keppel-NUS Corporate Laboratory, to boost research efforts and address key challenges. These initiatives enable us to strengthen our capabilities and stay ahead in the offshore and marine industry."

Keppel O&M has also extended its partnership with the Institute of Technical Education by committing

to provide training places for the Work Learn Technical Diploma (WLTD) programme in Marine and Offshore Engineering. The signing ceremony for the partnership took place on 2 November 2018 and was witnessed by Minister for Education Mr Ong Ye Kung.

Available in two specialisations, Engineering Design and Production, the 3-year WLTD prepares trainees for a professional career in the O&M sector by equipping them with skills and knowledge in the design and repair of ships and marine systems.

Striving for innovation



Briefing DPM Teo Chee Hean (seventh from left) and Minister Chan Chun Sing (sixth from left) are the Keppel team, including Dr Lee Boon Yang (fourth from left), Chairman of Keppel Corporation, Mr Loh Chin Hua (5th from left), CEO of Keppel Corporation and Mr Chris Ong (third from left), CEO of Keppel Offshore & Marine

As the industry undergoes the fourth industrial revolution, Keppel Offshore & Marine (Keppel O&M) is leveraging technologies such as digitalisation and additive manufacturing to sharpen and enhance its range of products and services.

STRENGTHENING R&D

In partnership with the Technology Centre for Offshore and Marine (TCOMS), Keppel O&M is harnessing data analytics to develop the Digital Twin technology on vessels such as the FueLNG bunkering vessel. This state-of-the-art application of predictive analytics increases the performance, efficiency and reliability of rigs and vessels.

Furthermore, TCOMS and Keppel O&M are collaborating on the development of autonomous vessels for a variety of applications including undertaking harbour operations such as berthing and towing operations. Both parties are also looking into the development of deepwater technology such as

mooring systems, coupled floating systems and next generation floating solutions.

On 1 February 2019, Deputy Prime Minister Teo Chee Hean and Minister for Trade and Industry Chan Chun Sing visited TCOMS and part of the visit included a briefing and tour of the projects that Keppel O&M is collaborating with TCOMS on.

Keppel senior management, Dr Lee Boon Yang, Chairman of Keppel Corporation, Mr Loh Chin Hua, CEO of Keppel Corporation and Mr Chris Ong, CEO of Keppel O&M joined Prof Chan Eng Soon, CEO of TCOMS in welcoming the distinguished guests.

The partnership between Keppel O&M and TCOMS extends into training opportunities, and engineers and researchers from both companies can participate in each other's projects for knowledge sharing. Young Keppel O&M engineers are also

able to attend workshops or job attachments to gain a better understanding of this research effort.

In a Facebook post after the visit, DPM Teo wrote, "TCOMS focuses on understanding key real-world problems faced by the marine & offshore and maritime industries, and enables Singapore-based companies, such as Keppel Offshore & Marine, to design and develop future solutions."

TCOMS is a national Centre of Excellence established by the Agency for Science, Technology and Research (A*STAR) and the National University of Singapore (NUS) to spur research excellence and advance Singapore's Marine & Offshore Engineering (M&OE) industry.

EXPLORING NEW TECHNOLOGIES

As part of its drive to promote innovation, Keppel Shipyard organised its third innovation roadshow on 3 December 2018 to give workers more exposure to

new technologies in the industry. Named Innovation Marketplace, the event was held at the Tuas Shipyard and garnered a strong attendance of over 400 people.

Attendees were given the opportunity to try out the innovative products of external companies, such as the augmented reality welding training simulator and autonomous robots, which have the potential to enhance yard operations

Mr Ivan Lim, General Manager (Operations), Keppel Shipyard,

said, "It was an informative experience seeing how other companies leverage technologies such as virtual reality, sensors, and wireless communication. We must continue to innovate to stay ahead of competition, and I look forward to exploring how we can adopt these ideas to further improve safety and productivity at the yard."

WORKPLACE SAFETY AND HEALTH

Innovation also plays a big part in Keppel O&M's continuous efforts in strengthening safety culture. These efforts were

recognised at the Association of Singapore Marine Industries (ASMI) Workplace Safety and Health (WSH) Innovations Convention held on 9 October 2018, where Teams Smart Robot and iDiver from Keppel FELS clinched Gold Awards for their innovative efforts in reducing workplace hazards.

Team iDiver's custom-built Remotely Operated Underwater Vehicle (ROV) conducts inspections underwater, eliminating the need for human divers, while Team Smart Robot's invention inspects other hard-to-access areas such as crane cable trenches, reducing the need for workers to perform hazardous tasks involving confined space entry.

KEPPEL TECH SYMPOSIUM

Organised across the Keppel Group since 2016 by Keppel Young Leaders (KYL), the Keppel Tech Symposium provides a platform for Keppelites to test and refine their innovations. Themed 'Challenge traditional businesses & build value through technologies', Keppelites tapped on technologies such as 3D printing and automation to generate, refine, execute and market their ideas.

At the finale held on 7 November 2018 at the Keppel Leadership Institute, five teams from Singapore, China, Brazil and Qatar, including team 'Keppel Consulting' from BrasFELS, competed to present groundbreaking new ideas. Eventually, team 'The Boring Print' from Keppel Technology & Innovation emerged as winners of the Symposium with their tunneling solution which performs 3D printing of the underground pipes while tunneling.



Keppel Shipyard management viewing a demonstration of the augmented reality welding training simulator



The iDiver has conducted underwater inspections for the CAN-DO drillship, which is scheduled for completion in 2019

Strengthening compliance

Keppel continued to strengthen its regulatory compliance measures in the last quarter.



Keppel O&M has achieved the ISO37001 certification

ISO 37001 ANTI-BRIBERY MANAGEMENT SYSTEM

Keppel Offshore & Marine (Keppel O&M) and its eight Singapore subsidiaries have achieved accredited certification for the ISO 37001 Anti-Bribery Management System (ABMS).

The ISO 37001 Standard has guided Keppel O&M in the implementation of its anti-bribery programme and sets out a systematic approach for identifying and evaluating bribery risks to prevent, detect and respond to incidents of bribery.

The successful roll out and implementation of the ABMS was made possible by the strong commitment and active involvement of Keppel O&M employees, and will further entrench the company's culture of integrity, accountability and compliance.

Mr Dave Cheng, MD of Socotec Certification Singapore,

presented the ISO certificates to the heads of the certified business entities on 27 November 2018. Mr Cheng shared, "The endorsement of this certification by Socotec Certification Singapore demonstrates the effectiveness of Keppel O&M's ABMS. All this was made possible with concerted efforts by all Keppel O&M staff, supported by top management and Board members, and the active participation of Keppel's Group Risk & Compliance department as well as key personnel from its supporting corporate functions."

Building on the lessons learned, Keppel O&M will continue to extend the ABMS programme to its overseas business entities in 2019.

ENHANCEMENTS TO WHISTLEBLOWER REPORTING CHANNELS

Integrity is one of Keppel's core values. Keppel has a Whistleblower reporting channel for its customers, suppliers, employees and other stakeholders to report,

in good faith, details of any instances of illegal and/or unethical conduct.

An important element of managing the risks of fraud, corruption and other illegal or unethical conduct is having a secure, confidential channel through which employees feel comfortable raising concerns. Vendors and employees of any organisation have a unique perspective on the frontline services they provide and are best placed to highlight wrongdoing. However, they need support and encouragement to do the right thing.

To this end, Keppel Corporation has engaged KPMG to provide an independent platform for employees as well as external parties such as customers, suppliers, contractors and applicants for employment, to raise concerns in good faith about any perceived irregularity or misconduct.

Key enhancements to reporting channels include increased geographical coverage for whistleblower hotlines to cover 10 countries and include Australia, the Philippines, the UK and Germany, as well as the provision of online forms in multiple languages.

A generation of firsts

Born between 1950 and 1959, Singapore's "Merdeka Generation" grew up during a time of tremendous change. Also referred to as a "generation of firsts", the Merdeka Generation contributed to many pioneering aspects of Singapore's development.

One of the members of the Merdeka Generation, Mr Yong Chee Min, Director (HSE and Risk), Keppel Offshore & Marine (Keppel O&M) was featured in Mediacorp's documentary "Hands that Shaped the Nation: The Merdeka Generation" which aired in February 2019.

Mr Yong joined Keppel Shipyard in 1969 as an apprentice after completing his secondary school education to help his family make ends meet.

Reminiscing his apprentice days, Mr Yong shared, "We had very solid foundation training in different trades, such as electrical, piping, engine fitting, carpentry, sheet metal and welding. In a week, we worked four and a half days, and spent one day at Singapore Polytechnic studying. On top of that, we had to attend two to three evening classes."

With grit and determination, Mr Yong rose through the ranks and even obtained a degree in Naval Architecture from the University of Strathclyde through a Keppel scholarship. He also spent many years managing Keppel O&M's overseas shipyards."

When asked if he had any words of advice, Mr Yong, who has 50 years of industry experience, encouraged



Mr Yong Chee Min (right) during his apprentice days at Keppel Shipyard

younger Keppelites to persevere through the difficult times. He said, "This is a challenging industry and requires years to acquire the necessary experience and know-how. Every project is different and the entire process requires a lot of coordination, planning, and execution. But at the end of it, everyone feels a strong sense of satisfaction from all the teamwork and effort that was put into the project."

Ong Wen Qi, Management Trainee at Keppel O&M, shared, "Through engagement sessions with management, we gain insights to the different trades and projects in the industry. This is valuable as we will face challenges when we embark on our own projects."



Mr Yong Chee Min (second from left), Director (HSE and Risk), Keppel O&M, sharing his experience with management trainees

Caring for the community



Volunteers from Keppel O&M Alumni and Keppel O&M organised games for elderly patients and presented them with hand-made gifts

ENGAGING THE ELDERLY

Volunteers from Keppel Offshore & Marine (Keppel O&M) and Keppel O&M Alumni, led by Mr Chris Ong, CEO of Keppel O&M and Mr Hoe Eng Hock, Chairman of Keppel O&M Alumni, jointly organised a morning of games for elderly patients from Yishun Community Hospital on 22 October 2018. The card games were designed to boost the seniors' cognitive abilities and increase their concentration levels.

Mr Hoe shared, "Our Keppel O&M Alumni members were glad to engage the elderly patients. Having spent many years working

the company, we were happy to fly the Keppel flag high and look forward to more of such collaboration with Keppel Volunteers."

KEEPING THE PARK CLEAN

About 100 volunteers from Keppel Shipyard accompanied 80 children from Care Corner for a fun day of games and coastal cleanup at East Coast Park on 23 November 2018.

SUPPORTING THE ARTS

The 7th edition of the Keppel Latin American Film Festival returned from 22-25 November 2018 at the National Gallery, Singapore.

As part of Keppel Offshore & Marine's aim to contribute to the communities it operates in, it has been the main sponsor of the film festival for seven years, helping to showcase Latin American culture in Singapore. It was jointly organised by the Embassies of Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Mexico, Panama, Peru and Venezuela with award winning films from each country shown.

Over the years, the festival has attracted a strong following and more than 2000 people attended the latest edition which provided complimentary tickets.

Doing good as OneKeppel



Keppelites being recognised for their dedication and efforts at the annual Keppel Volunteers Appreciation event

In conjunction with International Volunteer Day, Keppel's regular volunteers were recognised for their dedication and community service at the annual Keppel Volunteers Appreciation Dinner held on 5 December 2018 at Keppel Leadership Institute.

Addressing the volunteers, Mr Loh Chin Hua, CEO of Keppel Corporation, commended their efforts in uplifting the lives of the underprivileged. He said, "I am heartened that volunteerism at Keppel is about deeper engagement and enduring impact. Keppelites are befriending and engaging our beneficiaries as well as developing more sustainable and

outcome-focused programmes, whether for seniors, children or low-income families."

The volunteers were also inspired by Mr Koh Seng Choon, Founder of Dignity Kitchen, who candidly spoke on harnessing innovation to develop customised solutions to help people with special needs.

Special awards were presented to 16 Keppelites from across the Group, in recognition of their work in organising or participating in volunteerism events, and whose time and efforts have helped Keppel exceed its 2018 target of 10,000 volunteer hours.

Sharing her experience, Janneth Lim, Design Engineer from Keppel O&M, recounted a heartwarming story of how an activity she organised for foster children from Epworth Community Services led to another fellow Keppelite's decision to be a foster parent.

Separately, Ong Wen Qi from Keppel Singmarine shared how her participation in Keppel Land's Words on Wheels programme in Vietnam gave her a deep sense of pride to be part of a company making a difference in the lives of underprivileged communities overseas.



Keppel O&M's employees and management including (left to right from the lion on the left), Mr Tan Leong Peng, ED (Offshore), Mr Chris Ong, CEO, Mr Loh Chin Hua, Chairman, Mr Paul Tan, CFO, Mr Chor How Jat, MD (Conversion and Repair) and Mr Abu Bakar, MD (Gas and Specialised Vessels) celebrated the Lunar New Year with the opening of the new lobby

Auspicious start

Keppel Offshore & Marine (Keppel O&M) celebrated the Lunar New Year with the opening of its newly renovated lobby on 4 February 2019.

The futuristic new lobby, which was designed and built by Keppel Sea Scan, features a one-of-a-kind 217 inch screen which showcases the company's corporate videos and latest projects. It can also be used to host events and

presentations. To maximise the space and increase automation, visitors will be able to get information on their meetings from a smaller TV screen by the side without the need of a receptionist.

To spread the good cheer, Keppel O&M organised a donation drive to raise funds for Food for the Heart, a non-profit charity that feeds the hungry through its food

distribution programme. Keppel Care Foundation then matched dollar-for-dollar the funds raise through the donation drive.

The Lunar New Year celebrations were organised by the Keppel FELS Production department and included performances and games as well as a "Lo Hei" by Keppel O&M's management, employees, customers, partners and contractors.



A donation was made by Keppel O&M to the Food from the Heart charity



Keppel O&M board, management and union shared well-wishes with employees

GLOBAL NETWORK

SINGAPORE

KEPPEL OFFSHORE & MARINE LTD

(Head Office)
50 Gul Road, Singapore 629351
Tel: +65 6863 7200 Fax: +65 6261 7719
www.keppelom.com

KEPPEL FELS LTD

(Pioneer Yard 1 – Head Office)
50 Gul Road, Singapore 629351

(Pioneer Yard 2)
55 Gul Road, Singapore 629353

(Crescent Yard)
60 Shipyard Crescent, Singapore 627735

Tel: +65 6863 7200 Fax: +65 6261 7719

www.keppelfels.com
Email: marketing@keppelfels.com
Contact Persons: Tan Leong Peng, Executive Director
Marlin Khiew, General Manager (Marketing)
Yeong Yew Ming, Assistant General Manager
(Business Development, Offshore)

KEPPEL SHIPYARD LTD

(Tuas Yard – Head Office)
51 Pioneer Sector 1, Singapore 628437
Tel: +65 6861 4141 Fax: +65 6861 7767

(Benoi Yard)
15 Benoi Road, Singapore 629888
Tel: +65 6861 6622 Fax: +65 6861 4393

(Gul Yard)
55 Gul Road, Singapore 629353
Tel: +65 6861 3007 Fax: +65 6862 3645/7

www.keppelshipyard.com
Email: ks@keppelshipyard.com
Contact Persons: Chor How Jat, Managing Director
Jaya Kumar, Executive Director (Commercial)
Chin Sze Kiun, General Manager (Commercial – Repair)
Tey Wee Hong, General Manager (Commercial – Conversions)

KEPPEL SINGMARINE PTE LTD

50 Gul Road Singapore 629351
Tel: +65 6863 7200 Fax: +65 6261 7719
www.keppelsingmarine.com
Email: singmarine@keppelsingmarine.com
Contact Persons: Abu Bakar Bin Mohd Nor, Managing Director
Andrea Gay Lee Bei Si, Assistant General Manager
(Business Development, Gas)
Tan Ser How, Assistant General Manager
(Marketing, Specialised Vessels)

OFFSHORE TECHNOLOGY DEVELOPMENT PTE LTD

55 Gul Road, Singapore 629353
Tel: +65 6863 7409 Fax: +65 6622 3465
Email: enquiry@keppelotd.com
Contact Person: Dr Foo Kok Seng, Executive Director

KEPPEL MARINE AND DEEPWATER TECHNOLOGY PTE LTD

50 Gul Road, Singapore 629351
Tel: +65 6908 4218
Email: aziz.merchant@keppelfels.com
Contact Person: Aziz Merchant, Executive Director
Email: anis.hussain@komtech.com.sg
Contact Person: Anis Altaf Hussain, General Manager

GAS TECHNOLOGY DEVELOPMENT PTE LTD

51 Pioneer Sector 1 Singapore 628437
Tel: +65 6558 7620 Fax: +65 6558 7621
Email: enquiry@keppelgtd.com
Contact Persons: Dr Foo Kok Seng, Executive Director

KEPPEL SEA SCAN PTE LTD

55 Gul Road, Level 5, Singapore 629253
Tel: +65 6803 1300
Email: ahcheng.lim@keppelseascan.com
Contact Person: Lim Ah Cheng, Executive Director

ASIAN LIFT PTE LTD

23 Gul Road, Singapore 629356
Tel: +65 6668 4222 Fax: +65 6668 4333
Email: asianlift@asianlift.com.sg
Contact Person: John Chua, General Manager

KEPPEL SMIT TOWAGE PTE LTD

23 Gul Road, Singapore 629356
Tel: +65 6668 4222 Fax: +65 6897 8056
Email: kst@keppelsmit.com.sg
Contact Persons: Romi Kaushal, Managing Director
Jerry Wong, General Manager

AUSTRALIA

KEPPEL PRINCE ENGINEERING PTY LTD

Level 2 Riverside Quays, 1 Southbank Boulevard
Southbank, Victoria 3006, Australia
Tel: +613 9982 4589, +614 1999 0788 Fax: +613 9551 0624
Email: cchiam@ozemail.com.au
Contact Person: Charles Chiam, Director

BRAZIL

KEPPEL FELS BRASIL S.A.

Rua da Quitanda nº 86, Sala 301, 3º Andar,
CEP - 20091 - 005, Rio de Janeiro, RJ, Brasil
Tel: +55 21 2102 9400 Fax: +55 21 2102 9425
Email: Marlin.Khiew@keppelfels.com
Contact Person: Marlin Khiew, President & CEO

ESTALEIRO BRASFELS LTDA

Av. Conde Mauricio de Nassau,
S/n - Jacucanga CEP - 23914 - 460 Angra dos Reis, RJ, Brasil
Tel: +55 24 3361 6000 Fax: +55 24 3361 6258
www.kfelsbrasil.com.br
Email: herman.affendy@keppelfels.com
Contact Person: Herman Effendy, President

KEPPEL SINGMARINE BRASIL LTDA

Rua Prefeito Manoel Ewaldo Müller
3388 Bairro Volta Grande, Navegantes,
Santa Catarina, Brasil, CEP 88371-860
Tel: +55 47 3405 0160 Fax: +55 47 3405 0170
Email: diwakar.karri@keppelsingmarine.com
Contact Person: Diwakar Karri, General Manager

BULGARIA

KEPPEL FELS BALTECH LTD

54 Debar Street, Varna 9000, Bulgaria
Tel: +359 52 684 250 Fax: +359 52 684 252
Email: office@fels.bg
Contact Person: Lyudmil Stoev, General Manager

CHINA

KEPPEL NANTONG SHIPYARD CO. LTD

KEPPEL NANTONG HEAVY INDUSTRY CO. LTD
No. 9 Yan Jiang Road, Nantong City, Jiangsu Province
P.R. China 226005
Tel: +86 513 8530 0000 Fax: +86 513 8530 0007
Email: edmund.lek@keppelnantong.com
Contact Person: Edmund Lek, President

KEPPEL FELS ENGINEERING SHENZHEN CO. LTD

3rd Floor, Chiwan Petroleum Building
Chiwan Road No. 5, P.R. China 518068
Tel: +86 755 26851902/+86 755 26851959
+65 6863 7215 (Singapore Contact)
Fax: +86 755 26851670
Email: weewah.sia@keppelfels.com
Contact Person: Sia Wee Wah, Engineering Manager

KEPPEL FELS ENGINEERING WUHAN CO. LTD

Blk 6 #05, Financial Harbor, No. 77 Optical Valley Ave
Wuhan City Hubei Province, P.R. China 430070
Tel: +86 27 59838598 / +65 6863 7215
E-mail: reynard.xiao@keppelfels.com
Contact Person: Reynard Xiao Peng, General Manager

INDIA

KEPPEL OFFSHORE AND MARINE ENGINEERING SERVICES MUMBAI PTE LTD

Unit 3, 8th Floor, Prism Tower-A, Mindspace, Link Road
Goregaon (West), Mumbai 400 062, India
Tel: +91 22 40018888 Fax: +91 22 40018898
E-mail: kabeer.syedahamed@kommumbai.com
Contact Person: Syed Ahamed Kabeer, General Manager
Email: joseph.matthew@keppelsingmarine.com
Contact Person: Joseph Matthew, General Manager

Indonesia

PT BINTAN OFFSHORE

Jalan Nusantara KM 23, Kecamatan Bintan, Timur,
Kabupaten Bintan, Kepulauan Riau, Indonesia
Tel: +62 771 462 699 Fax: +62 771 462 575
Email: hauwsheong.loe@keppelfels.com
Contact Person: Loe Hauw Sheong, General Manager

JAPAN

REGENCY STEEL JAPAN LTD

46-59 Nakabaru, Tobata-ku,
Kitakyushu, Fukuoka 804-8505, Japan
Tel: +81 93 861 3103 Fax: +81 93 861 3114
Email: chunyu.wong@r-sj.com
Contact Person: Wong Chun Yu, President

THE NETHERLANDS

KV ENTERPRISES

Prof. Gerbrandyweg 25, 3197 KK Rotterdam-Boilek
Harbour no. 4550, P O Box 1001, 3180 AA Rozenburg,
The Netherlands
Email: egurbanov@kventerprises.nl
Contact Person: Elshan Gurbanov, Director

THE PHILIPPINES

KEPPEL PHILIPPINES MARINE, INC

Unit 3-B Country Space 1 Building, 133 Sen. Gil Puyat Avenue,
Salcedo Village, Barangay Bel-Air, 1200 Makati City, Philippines
Tel: +63 2 892 1816 Fax: +63 2 815 2581
www.keppelphilippinesmarineinc.com
Email: mhq@keppelpm.com or commercial@keppelpm.com
Contact Persons: Chor How Jat, Chairman
Leong Kok Weng, President
Wong Jen Ming, Senior Vice President
Stefan Tong Wai Mun, Executive Vice President

KEPPEL BATANGAS SHIPYARD

Keppel Philippines Marine – Special Economic Zone
Barangay San Miguel, 4201 Bauan, Batangas, Philippines
Tel: +63 43 727 1532 to 36 Fax: +63 43 980 0450
www.keppelphilippinesmarineinc.com or
commercial@keppelpm.com
Email: kbs@keppelpm.com
Contact Persons: Stefan Tong, President
Muhammad Fadley Bin Mohd Amin, Senior Vice President

KEPPEL SUBIC SHIPYARD, INC

Subic Shipyard – Special Economic Zone
Cabangaan Point, Barangay Cawag,
2209 Subic, Zambales, Philippines
Tel: +63 47 232 2380 or 6347 232 2710
Fax: +63 47 232 3350
Email: all@subicship.com or commercial@subicship.com
Contact Persons: P. Shanmugam, President
Leong Chee Wah, General Manager

QATAR

NAKILAT-KEPPEL OFFSHORE & MARINE LTD

Erhama Bin Jaber Al Jalahma Shipyard
Southern Break Water, Ras Laffan Industrial City (RLIC)
PO. Box 28388, Qatar
Tel: +974 4419 7300 Fax: +974 4419 7301
www.nkom.com.qa
Email: gs.tan@nkom.com.qa
Contact Person: Tan Geok Seng, CEO

UNITED ARAB EMIRATES

KEPPEL LETOURNEAU MIDDLE EAST FZE

Office No: LB16504, Jebel Ali, Dubai, United Arab Emirates
Tel: 971 4886 0010 Fax: 971 4886 0012
E-mail: mohsen.abdelalim@keppelletourneau.com
Contact Person: Mohsen Abdelalim, General Manager
(Operations)

USA

KEPPEL OFFSHORE & MARINE USA, INC

5177 Richmond Ave, Suite 1065, Houston, TX 77056, USA
Tel: +1 713 600 8380 Fax: +1 713 600 8384
Email: simon.lee@keppelamfels.com
Contact Person: Simon Lee, President

KEPPEL AMFELS, LLC

20000 State Highway 48, Brownsville, Texas 78521, USA
Tel: +1 956 831 8220 Fax: +1 956 831 6220
Email: simon.lee@keppelamfels.com
Contact Person: Simon Lee, President

KEPPEL LETOURNEAU USA, INC.

5177 Richmond Ave, Suite 950, Houston, TX 77056, USA
Tel: +1 713 600 8380 Fax: +1 713 600 8384
Email: ron.macinnnes@keppelletourneau.com
Contact Person: Ron MacInnes, President

KEPPEL FLOATEC, LLC

5177 Richmond Ave, Suite 900, Houston, TX 77056, USA
Tel: +1 713 600 8350 Fax: +1 713 600 8384
Email: tk.das@keppelfloatec.com
Contact Person: Tapan K. Das, President

VIETNAM

KEPPEL FELS LTD

PetroVietnam Towers, Suite 410
8 Hoang Dieu Street, Ward 1, Vung Tau City, S.R. Vietnam
Tel: +84 643 850098 Fax: +84 643 850089
Email: kfelsvietnam@keppelfels.com
Contact Person: Wong Xin Yi, Country Manager

Provider of choice



To be built to a proprietary design of Keppel O&M's ship design and development arm, Marine Technology Development, the ice-class LNG bunker vessel will have an Ice Class Arc 4 notation and a cargo capacity of 5800 cubic metres

Keppel Offshore & Marine (Keppel O&M) ended 2018 on a high note with the securing of marine contracts worth about \$300 million for vessel new build and upgrading projects.

Mr Chris Ong, CEO, Keppel O&M, said, "These new contracts are testament to Keppel O&M's expertise in the building, upgrading and conversion of a wide range of vessels. They also extend our track record in refurbishment and modification projects, which are a core part of our business.

"Keppel O&M also stands ready with a suite of advanced and cost-effective solutions such as

scrubber retrofits and LNG-fuelled vessels, as the International Maritime Organisation implements the 0.5% global sulphur cap on marine fuel from January 2020."

ICE-CLASS LNG BUNKER VESSEL

Keppel Singmarine has secured a contract with Shturman Koshelev LLC for the design and construction of an ice-class LNG bunker vessel. When completed in 4Q 2020, the vessel will be chartered to Gazpromneft Marine Bunker Ltd for operations in the Baltic Sea.

FPSO REFURBISHMENT

Keppel Shipyard has secured a contract with a leading global operator of floating production vessels for the fabrication of a new

aft hull for a Floating Production Storage and Offloading vessel (FPSO). The installation will also include a new accommodation block which can accommodate up to 140 personnel. Delivery of the FPSO is expected by the end of 2020.

SCRUBBER RETROFITS

Keppel Shipyard has also recently secured a total of 65 contracts from a variety of customers for exhaust gas scrubber retrofit projects involving project management, integration design engineering, installation and retrofitting, as well as testing and commissioning works.