

OFFSHOREMARINE

A newsletter of Keppel Offshore & Marine

March – April 2016

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**SUCCESSFUL PARTNERSHIP
ON HIGH-SPECIFICATION
VESSEL**

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President of Azerbaijan H.E. Ilham Aliyev (in black suit) touring the control room of one of the three crewboats on-track for delivery to Azerbaijan Caspian Shipping Company.

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Double delivery for Keppel FELS

Keppel FELS, a wholly owned subsidiary of Keppel Offshore & Marine (Keppel O&M), delivered two jackup rigs to Mexican company, Grupo R, in end March 2016.

Built to Keppel's proprietary KFELS B Class design, the rigs, CANTARELL I and CANTARELL II,

will be chartered to PEMEX, Mexico's national oil company, for operations in the Cantarell oil field in offshore Mexico. They are the first two of five jackup rigs that Keppel FELS is building for Grupo R.

Mr Wong Kok Seng, MD of Keppel O&M (Offshore) and Keppel FELS,

said, "We are pleased to deliver another two rigs in 2016 to our quality client Grupo R. Despite the current low oil price environment, the market continues to prefer safe and efficient rigs with a proven track record like our KFELS B Class. We have built strong relationships with our customers and continue to engage them in developing win-win solutions."

With the delivery of the rigs to Grupo R, there will be 10 KFELS B Class rigs operating in Mexico, two of which are directly owned by PEMEX. It is the dominant rig design in the region, with those already in operation achieving robust, efficient and economical performance for Mexico.

The KFELS B Class jackup is designed to operate in water depths of up to 400 feet and drill to depths of 30,000 feet. Developed by Keppel's Offshore Technology Development (OTD), the KFELS B Class jackup is equipped with an advanced and fully-automated high capacity rack and pinion jacking system, and Self-Positioning Fixation System. It can provide accommodation with full amenities for 150 people.

Keppel has delivered projects to Mexico since 2004 when it was awarded a contract to build two accommodation modules. Besides building new jackup rigs for Mexico, Keppel has also repaired and serviced a total of 18 rigs that have been deployed in Mexico.



Keppel FELS has delivered CANTARELL I and CANTARELL II to Grupo R. Built to Keppel's proprietary KFELS B Class design, the rigs will be chartered to PEMEX for operations in the Cantarell oil field in offshore Mexico

Running a tight ship

On the back of its multi-business strategy, strong financial discipline and prudent rightsizing efforts, Keppel is staying fighting-fit while taking advantage of the downturn to seek new opportunities. Mr Loh Chin Hua, CEO of Keppel Corporation and Chairman of Keppel Offshore & Marine (Keppel O&M), discussed the Group's financial performance and key developments in the first quarter of the year via a "live" webcast on 18 April 2016. *OffshoreMarine* produces highlights of his speech.

MACRO ENVIRONMENT

The macro environment remains challenging, with slowing growth in emerging economies. China continues its shift towards slower but more sustainable growth. OECD has also recently warned of growth easing off in several of the major advanced economies.

While oil prices have recovered from below US\$30 per barrel in January, it continues to hover at around US\$40 per barrel. The sustained low oil price environment continues to take a toll on the global oil and gas industry, which is in the midst of the most severe downturns in recent years. In the global offshore industry, we are seeing layoffs, mergers, as well as large reductions in capital expenditure as the industry prepares for a longer winter.

Brazil, which has traditionally been one of Keppel Offshore & Marine's (Keppel O&M) key markets, continues to be mired in economic and political challenges, as well as the Lava Jato corruption scandal. As I announced at the start of the year, Keppel has stopped construction on Sete's

rigs since end-2015 and we will not resume construction until payment recommences.

BUSINESS UPDATES

Keppel O&M continues to focus on executing our projects with our customers well, and delivering them safely, on time and on budget.

Just a few weeks ago, we shared the welcome news that Keppel FELS Brasil was awarded an FPSO module fabrication and integration project by its repeat customer MODEC Offshore Production Systems (Singapore) (see backpage story). The vessel is expected to arrive at the shipyard by the first quarter of 2017 for the integration phase. In the past five years, BrasFELS has delivered five FPSO projects safely and ahead of schedule, of which three were for MODEC.

Pursuing opportunities in the non-drilling market, Keppel is further honing its capabilities in the Liquefied Natural Gas (LNG) business across the value chain. We have jointly secured with the BG Group, now a part of Shell, the licence to supply LNG bunker to

vessels in the Port of Singapore. This will enable us to capture pull through work for LNG-fuelled newbuilds, repairs and conversions.

Apart from sharpening capabilities, we are also taking advantage of the downturn to seek new opportunities and expand our services to customers. I am pleased to share that we have obtained the Antitrust approval for our acquisition of the LETOURNEAU™ jackup rig designs, rig kit business, and aftermarket services from Cameron. Expected to be completed in 2Q 2016, the acquisition of LETOURNEAU™ will broaden our offerings to customers, allowing us to better support them with end-to-end jackup rig solutions. (Editor's update: Keppel has since completed the acquisition of LETOURNEAU™. See centrespread story.)

Meanwhile, to ride out the current turbulence, we will continue to stay close to our customers, and focus on execution whilst rightsizing the organisation so that we can remain profitable even with a lower top line. Since the start of 2016, our global workforce



Keppel O&M continues to keep busy with its backlog of orders as well as repair, upgrade and modification projects

has been further reduced by 9.4% or about 2,800 headcount, of which 2,300 are from overseas yards, while 500 are from those in Singapore.

Apart from optimising our resources across our yards, we are also committed to managing our overheads effectively. Keppel Offshore & Marine had cut its overheads by 10% last year compared to 2014. In this first quarter, we have further reduced overheads by another 28% compared to the first quarter of 2015, enabling us to achieve a healthy operating margin of 13.6% despite lower revenue.

Last month, Keppel FELS delivered two jackup rigs to our customer Grupo R, both of which have secured charters from PEMEX, Mexico's national oil company (see story on page 3). Built to our proprietary KFELS B Class design, CANTARELL I and CANTARELL II, are part of a series of five jackup

rigs that Keppel FELS is building for Grupo R.

In total, we have delivered three drilling jackups in 1Q 2016, including one unit to Gulf Drilling International at the start of the year. During the quarter, we have also delivered a liftboat and a Transformer platform.

Last month, a naming ceremony was held by Keppel FELS for the accommodation semisubmersible (semi) Floatel Triumph which will be chartered by INPEX Operations Australia for work in the Ichthys Field, off Western Australia. This month, a naming ceremony was held by Keppel Singmarine for a high-specification deepwater derrick lay vessel built for Hydro Marine Services, a subsidiary of McDermott International (see story on pages 6 and 7). These are among the key projects we expect to complete in 2016, which include a number of jackups, a semisubmersible, a land rig and

several conversion projects for floating production and storage solutions.

During these challenging times, we are working closely with our customers for win-win outcomes wherever possible. Earlier this year, Transocean and Enso have announced the deferment of their projects. Deliveries of two other jackups, for Clearwater and BOT Lease Co, have also been deferred to next year, while deliveries of two semis are deferred from 2017 to 2019/2020. The contracts are still valid, and we are working towards delivering them based on the new schedules agreed upon with our customers.

We do not need to make provisions for any of these contracts currently. However, we are monitoring the situation carefully and are focused on executing our projects well.

Specialised capabilities

Keppel Singmarine and McDermott International, Inc (McDermott) celebrated the naming of a high-specification deepwater derrick lay vessel on 14 April 2016.

The derrick lay vessel, built to Keppel's proprietary design for McDermott, was named DLV 2000. Following its delivery, DLV 2000 will be deployed for the INPEX Ichthys Liquefied Natural Gas project in offshore Western Australia.

Mr Chow Yew Yuen, CEO of Keppel Offshore & Marine (Keppel O&M), said, "We are pleased to deliver what will be McDermott's flagship

derrick lay vessel to add to their growing global fleet of specialised vessels.

DLV 2000 has been designed with enhanced features to work in water depths of up to 10,000 feet and severe weather conditions.

"Having successfully built over 400 vessels, Keppel Singmarine has a strong track record in designing efficient and specialised units to meet the needs of the market. We are confident that this robust and high-quality vessel will serve McDermott well as their flagship derrick lay vessel wherever she operates," he added.

Mr David Dickson, President and CEO of McDermott, added, "We are glad to add this state-of-the-art derrick lay vessel to our global fleet. The flexibility and features built into the design of DLV 2000 will enable us to provide more value-added services to meet the needs of the evolving market. We have built a strong partnership with Keppel O&M over the years, and they have demonstrated that their capabilities in design, engineering, execution and providing top-notch customer service run throughout the group."

Developed by Keppel's design arm, Marine Technology Development,



Keppel Singmarine and McDermott affirm their strong partnership at the naming ceremony of DLV 2000. From left to right are: Mr Hugh Cuthbertson, Vice President (Asia), McDermott; Mr Wong Ngiam Jih, CFO, Keppel O&M; Mr David Dickson, President & CEO, McDermott; Mr Chow Yew Yuen, CEO, Keppel O&M; Mr Stuart Spence, Executive VP & CFO, McDermott; and Mr Abu Bakar, MD, Keppel Singmarine

DLV 2000 is capable of achieving efficient pipelay rates for long trunklines and operating in severe weather conditions while maintaining significant thrust output and power distribution.

Although DLV 2000 is designed to carry out pipelaying using the S-lay installation method, the vessel has the flexibility to accommodate a deepwater, 500-tonne flex-lay system that can be installed as needed in response to market needs.



DLV 2000 is a high-specification deepwater derrick lay vessel built to Keppel's proprietary design. DLV 2000 will be deployed to operate in the INPEX Ichthys Liquefied Natural Gas project in offshore Western Australia

Successful launch for Seaways

Keppel Singmarine celebrated the successful launch of its fifth Anchor Handling Tug (AHT) built for repeat customer, Seaways International, on 24 March 2016.

Since striking steel at the end of March 2015, the project has achieved over 620,000 safe man-hours without lost-time incidents.

To be named Seaways 24, the 120-tonne bollard pull AHT is well-equipped for an array of offshore activities, and features Class 1 and 2 fire-fighting capabilities, dynamic positioning Class 2 systems and oil recovery Class 1 capabilities.



Management and project teams from Keppel Singmarine and Seaways International celebrated the launch of Seaways 24

Mr Kunal Nijhawan, MD of Seaways International, said, "Keppel Singmarine is a longtime partner and the strong synergy and trust between our teams has served this project well. We look forward to the delivery of Seaways 24 and welcoming her into our growing fleet of modern offshore support vessels."

Triple naming for crewboats



Baku Shipyard will soon deliver the three crewboats Ufuq, Zafar and Turan to Azerbaijan Caspian Shipping Company



President of Azerbaijan H.E. Ilham Aliyev (holding scissors) naming the three crewboats at Baku Shipyard

Baku Shipyard and Azerbaijan Caspian Shipping Company (ACSC) celebrated the naming of three crewboats in the presence of the President of Azerbaijan H.E. Ilham Aliyev on 22 April 2016. The crewboats, named Ufuq, Zafar and Turan, were built by Baku Shipyard for ACSC.

He was hosted by the President of the State Oil Company of the Republic of Azerbaijan (SOCAR) Mr Rovnag Abdullayev, Chairman

of Caspian Shipping Company Mr Rauf Valiyev and President of Baku Shipyard, Mr Lam Khee Chong.

Measuring 38 metres in length, each vessel can accommodate up to 80 passengers. When delivered, the crewboats will be chartered to oil field operators in Azerbaijan.

Mr Lam said, "We are happy to be soon delivering not just one but three crewboats to Azerbaijan Caspian Shipping Company. We look forward to supporting the local offshore and marine industry with our comprehensive suite of capabilities."

Since its inauguration in 2013, Baku Shipyard – a joint venture between Keppel Offshore & Marine (Keppel O&M), State Oil Company of Azerbaijan Republic (SOCAR) and Azerbaijan Investment Company – has been providing offshore and marine capabilities that contribute directly and indirectly to the development of Azerbaijan's energy sector.

The shipyard is currently constructing a Subsea Construction Vessel (SCV) that is to be deployed in the Stage 2 development of the Shah Deniz field, which lies some 70 kilometres offshore in the Azerbaijan sector of the Caspian Sea. Designed by Marine Technology Development, the ship design and development arm of Keppel O&M, the vessel is expected to be completed in 2Q 2017.

The SCV project leverages the synergy of Keppel O&M's global network of yards by having Baku Shipyard's affiliated yard in Singapore, Keppel Singmarine, to design and carry out fabrication and outfitting works.

The main hull strips of the SCV were constructed by Keppel Singmarine in Singapore, while the bow block was constructed in Baku Shipyard, which will also carry out the integration and commissioning work.

Innovative repair methodology for Ocean Apex

Following the successful re-delivery of the semisubmersible drilling rig, Ocean Monarch, in June 2015, repeat customer Diamond Offshore once again entrusted the refurbishment of a similar rig, Ocean Apex, to Keppel FELS.

The rig, which arrived on 7 April 2016, was in the yard for works to enable it to operate in Australian waters, and was successfully delivered at the end of the month in time for its charter to Woodside Energy.

Unlike Ocean Monarch which had to be docked on a specially chartered giant heavy lift vessel, Ocean Apex, despite being a larger rig, was docked onboard the yard's own CAN-DO barge instead to meet the needs of the customer.

It was an innovative method that required careful planning and coordination between the customer, classification society ABS, Keppel's design arm – Bennett Offshore and various departments from the yard as it was the largest rig ever to be docked on the barge.

In addition, the scope of work which initially only comprised lower hull cleaning and the removal of barnacles expanded to also include repainting of the lower hull and further works such as steel renewal and the installation of high pressure and low pressure piping.

Mr Dave Wedgeworth, Project Manager, Diamond Offshore, shared, "Given the size and weight

of Ocean Apex, we were fully aware of the demanding nature of the job. Despite the change in methodology from the work done on Ocean Monarch, we were confident in the win-win solution proposed by Keppel FELS that has reaped significant cost-savings."

"We have built up an understanding with Keppel FELS over the years which has enabled our jobs to be completed successfully. This time is no different. I want to commend the team for delivering quality results that surpassed our expectations. We look forward to continuing this strong partnership on Keppel FELS' next job to upgrade Ocean America," added Mr Tom Geiger, Director of Projects, Diamond Offshore.



Strong cooperation between Keppel FELS and Diamond Offshore led to the safe and successful completion of refurbishment works for semisubmersible rig, Ocean Apex



The project team, which included Mr John Baugus, Project Engineer, Diamond Offshore as well as Mr Loe Hauw Sheong, Assistant GM, Operations, Production and Mr Fashiuddin M Naseem, Project Manager, from Keppel FELS celebrated the successful re-delivery of Ocean Apex

Enhancing FPSO track record at BrasFELS

BrasFELS continues to grow its capabilities in Floating Production Storage and Offloading (FPSO) projects having successfully delivered five such units since 2010 and currently has another four on order.

At present, the shipyard is working on two FPSO units, P-66 and P-69, for Petrobras. Its workscope for both projects includes the integration as well as fabrication

of certain modules. For P-66, the project is in the commissioning phase. For P-69, the modules are under fabrication and on schedule for completion.

Both FPSOs will each have a production capacity of 150,000 barrels of oil per day (bopd).

BrasFELS also has two more FPSO projects for MODEC. The FPSO

Cidade de Caraguatatuba MV27, will arrive at the yard in mid-2016 for module integration and finalisation works while the FPSO Cidade de Campos dos Goytacazes MV29 is expected to arrive in the first quarter of 2017 for the integration of nine topside modules which BrasFELS will be fabricating.



BrasFELS has delivered five FPSO projects since 2010. It is presently engaged for four other FPSO projects

Asian Lift grows in strength

With a lifting capacity of 5,000 tonnes, Asian Hercules III is the world's most powerful and flexible heavy-lift sheerleg crane of its kind.

Delivered in 2015 by Keppel Nantong Shipyard to Asian Lift, a leading provider of high quality and versatile heavy lifting services, the crane has been put to good use on a number of projects in the span of a year, lifting over 27,000 tonnes of work in total.

Asian Hercules III's first assignment was to carry out a tandem lift alongside sister crane, Asian Hercules II, for the 5,300-tonne upper hull of a Floatel accommodation semisubmersible for Keppel FELS.

Since then, other significant projects undertaken by Asian Hercules III included the lifting of the world's largest external turret for integration with the Floating Production Storage and Offloading vessel (FPSO), Prof. John Evans Atta, the lifting of a BTM Buoy for Shell's FPSO Turritella onto a transport vessel as well as the lifting of modules for Bumi Armada's FPSOs, Kraken and Armada Olombendo.

The addition of the high-capacity sheerleg crane broadens Asian Lift's market coverage, enabling it to seize opportunities which are outside its traditional markets, such as offshore installations and decommissioning work.



Asian Hercules III's first job was a tandem lift with Asian Hercules II for the 5,300-tonne upper hull of an accommodation semisubmersible

The other four cranes in Asian Lift's fleet include the 400-tonne Asian Helping Hand III, the 1,600-tonne Asian Hercules and the 3,200-tonne Asian Hercules II.

Forged from a strategic partnership between Keppel FELS and Smit (Singapore) in 1985, Asian Lift today has a strong presence in the Asia Pacific region and enjoys growing demand for its services in Europe and Central America.



The lifting of the world's largest external turret for the vessel, Prof. John Evans Atta, on a Keppel Shipyard project

Europe's preferred ship repair partner



Having its repairs completed on time, within budget and safely, CMA CGM Ponte des Colibris (pictured), left Keppel Verolme's yard on 23 March 2016 and is scheduled for a long charter contract

As part of Keppel Offshore & Marine's *Near Market, Near Customer* strategy to meet the needs of its customers worldwide, Keppel Verolme, located in Rotterdam, the Netherlands, serves as a major ship and rig repair yard in Europe.

Equipped with three graving docks and extensive quay space, the yard has the capabilities and flexibility to take on a wide array of conversion and repair jobs. Its status as the yard of choice was reinforced with a number of new projects in early 2016.

HYUNDAI DRIVE

In February 2016, a container vessel, Hyundai Drive, with a length of 366 metres and width of 48 metres was dry-docked in Keppel Verolme's No. 7 dock for a week. Hyundai Drive suffered

bottom damage and needed steel repairs.

"Keppel Verolme has built up long-standing relationships with our customers by being able to provide quality repair services on time, safely and at competitive prices," shared Mr Harold Linssen, Managing Director of Keppel Verolme.

To further enhance its strong position in the ship repair market, representatives of Keppel's European agencies visited the yard to strategise and discuss opportunities for Keppel Verolme to further enhance its position in the shiprepair market.

CAMELLIA

On 8 March 2016, Keppel Verolme was awarded a dry-docking and 10-year surveying job for German-

owned vessel Camellia, of Marlow Ship Management Deutschland GmbH.

The 39,200-tonne container vessel, with a length of 222 metres and width of 30 metres underwent maintenance work which included; the cleaning and painting of its hull, sea chests, chains and chain lockers. Additionally, the vessel's cell guides and piping required extensive repairs and maintenance.

One of the main challenges was the overhaul and repair work of the 32-tonne hatch covers on the vessel. As each hatch cover had to be placed on blocks beside the vessel, Camellia had to be dry-docked in Keppel Verolme's mammoth dry dock No.7 to ensure there was ample space for the work to be done.

Mr Ruud van der Stroom, General Manager (Commercial), Keppel Verolme said, "Keppel Verolme executed the repairs and maintenance works for Camellia in a safe, pragmatic and cost-effective manner. Despite the initial challenges, the team executed the job with accuracy and efficiency and to the full satisfaction of Camellia's owner."

Completed on time and with a perfect safety record, the repaired vessel left Keppel Verolme's yard on 23 March 2016 and is scheduled for a long charter contract, with a new name on its bow, CMA CMG Ponte des Colibris.

STENA IMPERATIVE

In April 2016, Keppel Verolme was entrusted with a repair job for the tanker, Stena Imperative, which arrived from the UK.

Stena Imperative, an oil product/chemical tanker with a length of 183 metres and width of 32 metres, arrived at Keppel Verolme's yard on 12 April 2016. Work on the tanker included steel works and a full blasting and coating of the underwater hull.

After Keppel Verolme successfully completed the repairs for Stena Imperative on time and within budget, the vessel was delivered to its client, leaving Keppel Verolme yard on 1 May 2016.

CITY OF ROME

On 23 April 2016, Keppel Verolme received an emergency call to attend to a Roll-on, Roll-off (RO-RO) cargo vessel, City of Rome, managed by Fairmont Shipping. The cargo vessel had suffered a damage to its bow.

In the span of one day, the shipyard inspected the damages and quoted its client for the repair work, and was subsequently entrusted with docking the vessel for repairs.

With a length of 100 metres and width of 20 metres, the vessel fit perfectly in Keppel Verolme's dry-dock No.5. The repair work included bulbous bow repair. While in dock, the client decided for the vessel to undergo other repair works as well.

Mr Harold Linssen, MD of Keppel Verolme, said, "Keppel Verolme is proud to have executed the project to the satisfaction of our client on time and within budget. We look forward to further projects as we build lasting relationships with our repeat customers."



RO-RO cargo vessel, City of Rome (left), and oil product/chemical tanker, Stena Imperative (right), arrived at the Keppel Verolme yard for repair works in April

Exchange of industry insights at OTC Asia

As a leading company in the offshore and marine industry, Keppel Offshore & Marine (Keppel O&M) regularly participates in major conferences to exchange industry insights and network with customers and partners.

At the second Offshore Technology Conference Asia (OTC Asia) 2016 held from 22-25 March 2016 in Kuala Lumpur, Malaysia, Keppel O&M participated with a booth at the exhibition to showcase its capabilities.

Keppel O&M also held a cocktail reception on 23 March to catch up with customers, partners and stakeholders given its strong presence in Asia. The group had undertaken a wide variety of projects for the region over the years, supported by a wide network of shipyards not only in Asia, but also across the world.



OTC Asia 2016 attracted over 20,000 industry executives and technical professionals from 70 countries, with speakers from a variety of sectors such as governments, operators, service providers, advisory, research firms and academia sharing their insights during the event forums.

Datuk Wan Zulkiflee Wan Ariffin, Chairman of OTC Asia Advisory Committee and President and Group CEO of PETRONAS, summarised the success of the conference, "OTC Asia 2016 has been a brilliant four days, buzzing with meaningful conversations – both from the conference and exhibition arena.

"Asia's achievements, aspirations and important technological developments were discussed in depth with perspectives from within and outside of the oil and gas industry."



Management of Keppel O&M networking with customers and partners at Keppel's OTC Asia 2016 cocktail reception

Positive long-term prospects projected

The second edition of the Offshore Marine Forum returned on 19 April 2016 during the Singapore Maritime Week. A strong industry advocate, Keppel Offshore & Marine (Keppel O&M) supported the forum as a platinum sponsor.

The forum featured a discussion on key issues in the offshore and marine industry by a panel of experts which included Mr Chow Yew Yuen, CEO of Keppel O&M; Mr Jarand Rystad, Managing Partner, Rystad Energy; Mr Ron Mathison, MD of Swire Pacific Offshore Operations; Mr Geir Sjurseth, MD at DVB Bank AG; Mr Carl K. Arnet, CEO of BW Offshore, and Mr Andreas Sohmen-Pao, Chairman of Singapore Maritime Foundation and BW Group, who chaired the session.

During the panel discussion, Mr Rystad noted that oil could recover to the range of US\$60 to US\$70 a barrel by the end of this year, with oil companies cutting back heavily on investments while an increasing demand for oil starts to cut into the supply glut. He highlighted that the current downturn is a result of a temporary oversupply, and not a structural shift in the demand for oil.

“Even if you make very aggressive forecasts on current trends such as electric cars, Liquefied Natural Gas shipping and alternative energies, these won’t make any meaningful structural impacts on the oil industry for another 10-20 years,” he said.

Mr Chow added, “As the oil and

gas market is a cyclical business, we expect oil prices to go back up after coming down. Keppel O&M is taking the opportunity to invest prudently for the future while also looking at some non-oil and gas-related projects where we are able to use our offshore technology to diversify our businesses.”

Around 150 industry leaders attended the Offshore Marine Forum which was organised by Seatrade and Singapore Maritime Foundation. The forum was followed by the launch of Sea Asia 2017 where Seatrade Chairman, Mr Chris Hayman, said that discussions on the future and trends of the industry will be continued at the coming Sea Asia conference and exhibition.



Mr Chow Yew Yuen (second from right), CEO of Keppel O&M, shared his views on the outlook of the offshore and marine industry together with a panel of experts, including Mr Andreas Sohmen-Pao (extreme left), Chairman of Singapore Maritime Foundation and BW Group; Mr Jarand Rystad (second from left), Managing Partner, Rystad Energy and Mr Ron Mathison (extreme right), MD of Swire Pacific Offshore Operations

Showcasing LNG solutions



A government delegation, led by Mr S Iswaran (centre), Singapore Minister for Trade and Industry (Industry), visited Keppel Shipyard to share and exchange views on Singapore's LNG market with Mr Loh Chin Hua (fifth from the left), Chairman of Keppel O&M and CEO of Keppel Corporation, Mr Michael Chia (fifth from the right), MD (Marine & Technology) of Keppel O&M, Mr Chor How Jat (third from right), MD of Keppel Shipyard and Mr Abu Bakar (fourth from left), MD of Keppel Singmarine

Keppel Offshore and Marine's (Keppel O&M) ship repair and conversion unit, Keppel Shipyard, hosted Mr S Iswaran, Singapore's Minister for Trade and Industry (Industry) on 19 April 2016 to share and exchange views on the Liquefied Natural Gas (LNG) market and plans to establish Singapore as an LNG bunkering hub.

Mr Iswaran was accompanied by government officials from the Industry, Economic Development Board, International Enterprise Singapore and the Energy Market Authority.

Receiving them were Keppel's senior management comprising Mr Loh Chin Hua, Chairman of Keppel O&M and CEO of Keppel Corporation, Mr Michael Chia, MD (Marine & Technology) of Keppel O&M, Mr Chor How Jat, MD of Keppel Shipyard and Mr Abu Bakar, MD of Keppel Singmarine.

During the meeting, Keppel shared its LNG solutions that cater to different parts of the LNG value chain, as well as its tie-up with Shell to provide LNG bunkering services in Singapore from 2017.

Keppel Shipyard has a long track record in catering to the LNG market, and was the first shipyard in the world to provide conversion solutions for a Floating Liquefaction Vessel in 2014.

Earlier in the year, Keppel O&M and BG Group, now part of Shell, successfully won the license awarded by the Maritime and Port Authority of Singapore to jointly provide LNG bunkering services in the Port of Singapore.

In the running for top 50 engineering feats

The Institute of Engineers, Singapore (IES), in conjunction with Singapore's jubilee year celebrations, launched a national competition, Engineering Feats @ IES-SG 50, in which three of Keppel Offshore & Marine (Keppel O&M)'s projects are in the running for the title of Top 50 Engineering Feats. Projects that have been shortlisted for the title are deemed to have made great economic, societal or infrastructural impact to Singapore since her independence in 1965.

Project owners and engineers from over 20 different industries are

taking part in the competition. The top 50 projects, which will be decided by a public voting system, will be recognised at the IES Golden Jubilee Dinner to be graced by Singapore Prime Minister Mr Lee Hsien Loong in July 2016. The competition kick started on 1 March 2016 and will run till 30 May 2016.

The projects which have been selected to represent Keppel O&M in the competition are namely: mega drilling semisubmersible DSS™ Series rigs, KFELS N Class jackup rigs and Arctic icebreakers.



Keppel O&M's nominated projects in the IES competition for the top 50 engineering feats are: (clockwise from left) mega drilling semisubmersible DSS™ Series rigs, KFELS N Class jackup rigs and Arctic icebreakers

Keppel O&M's shortlisted projects

DSS™ SERIES

The mega drilling semisubmersible DSS™ Series is among the world's most technically advanced deepwater drilling rigs. Keppel O&M is the first in the world to have developed these proprietary semisubmersible designs for advanced deepwater drilling.

KFELS N CLASS JACKUP

The KFELS N Class jackup rigs can handle ultra-harsh environments in water depths ranging from 400-500 feet, which is 40 per cent deeper than what traditional units can reach in benign waters. The series was conceptualised to develop an innovative and cost-effective jackup solution for the Norwegian Sector of North Sea, one of the world's harshest operating environments for offshore exploration and production.

ARCTIC ICEBREAKERS

As for the Arctic icebreakers, Keppel Singmarine is the first shipyard in Asia to have successfully engineered and built an icebreaker that is designed for operations in the Arctic region. The two icebreakers, Varandey and Toboy, are designed to cut through solid ice of over 1.7 metres thick and operate in extreme temperatures as low as -45 degrees Celsius.

LeTourneau acquisition completed

Acquisition adds to Keppel's comprehensive suite of jackup rig designs and opens up aftersales and aftermarket services for more than 150 LeTourneau rigs in operation.



Adding the LETOURNEAU™ designs to its own offerings, Keppel will have more than 26 designs for jackup rigs covering almost every requirement and condition in the market. Keppel has previously completed 16 such rigs, including the Papaloapan jackup (pictured), a LETOURNEAU™ Super 116E design, which was built by Keppel AmFELS in Brownsville, USA

Keppel Offshore & Marine (Keppel O&M) has, through its subsidiary, Keppel Offshore & Marine USA, Inc., completed the acquisition of Cameron International Corporation's (Cameron) offshore product division, which comprises the LETOURNEAU™ jackup rig designs, rig kit business, as well as its aftersales and aftermarket services. The acquired company will operate as Keppel LeTourneau with offices

in the USA, United Arab Emirates and Singapore.

The acquisition will not only broaden Keppel O&M's suite of jackup rig designs but also expand its business in the provision of aftersales and aftermarket services.

Mr Chow Yew Yuen, CEO of Keppel O&M said, "Keppel O&M is the world's leading provider of offshore jackup rigs. This strategic

acquisition will complement Keppel O&M's existing capabilities and enable us to provide our customers with a full suite of end-to-end jackup rig solutions. With Keppel's and LeTourneau's combined engineering resources, international shipyard presence and design and equipment manufacturing competencies, we are confident of providing even better value-added solutions to drilling operators."

COMPREHENSIVE SUITE OF RIG DESIGNS

Adding the LETOURNEAU™ designs to its own offerings, Keppel will have more than 26 designs for jackup rigs covering almost every requirement and condition in the market.

Keppel will have the flexibility to customise and build the LETOURNEAU™ jackup rigs from Keppel yards worldwide or license the design to any client or shipyard through the sale of rig kits. The rig kits include jackup leg components, elevating units/skidding systems and cantilever/skidding systems. Marine equipment such as cranes and anchor winches are also options in the rig kits.

The LETOURNEAU™ suite of jackup rig designs is well established with a proven track record of operating in a variety of environments.

This includes the LETOURNEAU™ Super 116E, WORKHORSE™, Super Gorilla XL and Jaguar.

AFTERSALES AND AFTERMARKET SERVICES

Another important aspect of the business is the provision of aftersales and aftermarket services. This includes the sales of spare parts, field service (troubleshooting, inspection, installation and commissioning), operator training, repair and refurbishment of equipment and bespoke engineering services.

Some 260 or 40% of the jackup rigs currently in the market belong to either LeTourneau or Keppel designs. Of these, more than 100 rigs are over 15 years old and hence require regular servicing. Besides repairs, upgrades and modifications, jackup rigs are required to undergo five-year class re-certification special periodic surveys.

With 20 yards around the world which are near market and near customer, Keppel O&M will be able to service LETOURNEAU™ rigs for their owners wherever they are, more quickly and efficiently.

As a jackup rig is made up of thousands of components, Keppel O&M’s comprehensive supply chain management system will ensure that it is able to provide the spare parts required in aftersales and aftermarket services in a timely and cost-effective manner to its customers.



A great addition to the Keppel family are employees of LeTourneau in Houston, USA

Mr Chow added, “With the current low oil price, rig owners are looking more at repairing and upgrading their current fleets. The LeTourneau acquisition has expanded our client base, and will improve our service offerings to rig operators in helping them maintain their assets more cost-

effectively. In addition, we are confident that our end-to-end packages, from rig design and construction to aftersales and aftermarket services, will be attractive to customers because they will be assured of greater reliability in product quality as well as follow-up services.”

Information at the click of a button

To allow stakeholders to better understand the company’s products and service offerings, a website was launched together with the announcement of Keppel’s completion of the acquisition of LeTourneau. The platform (www.KeppelLeTourneau.com) offers users detailed information, ranging from the history of LeTourneau to the different rig designs and services available.



Sky's the limit

To help save customers' expenditure, time, effort and manpower on rig and vessel inspections, Keppel Offshore & Marine's design arm, Offshore Technology Development (OTD), is collaborating with Sky-Futures, a leading provider of Unmanned Aerial Systems (UAS or 'drones') inspection services for the oil and gas industry, to provide inspection services using drones to the global offshore and marine industry.

With Keppel providing its leading project management, engineering and repair expertise, and Sky-Futures providing its drone inspection services to Keppel's large and established client base in the industry, the partnership will bring about more comprehensive solutions to the customers. It will also provide clients with a step change in the way inspections –

such as Dropped Object Surveys – can be performed on essential but hard-to-access parts of their vessels.

The use of drones also makes it possible to simultaneously improve safety, reduce cost – often by more than 80% – and obtain better quality inspection information. Combining this capability with OTD's unrivalled engineering expertise and experience in the field of offshore drilling and support vessels means that clients are also assured of a swift analysis and resolution for any findings that result from these inspections.

By bringing together health and safety best practices from the oil and gas industry and operational procedures from commercial aviation, Sky-Futures has built a track record of safe and consistent

operations that bring true value to clients even in the harshest of offshore environments. Through the use of sophisticated software that can help analyse the videos as well as still and thermal data its drones gather, Sky-Futures can help clients identify potential problems on an asset. Clients can access the images and analysis through a cloud-hosted portal, together with expert input from OTD's experienced engineers.

James Harrison, Co-Founder and CEO of Sky-Futures, said, "Partnering with Keppel allows us to deliver an extended service for clients in the global offshore and marine industry. Keppel's ability to follow through and provide engineering support for any problems that may be found through our drone delivered inspections means that offshore and marine companies can operate more safely with less disruption to their operations whilst reducing cost. The partnership further demonstrates our commitment to deliver a leading and unique service for our clients worldwide."

A Keppel spokesperson from OTD added, "Through this partnership, we are able to offer our customers value-added services in inspecting and assessing their vessels in a more expedient, cost-efficient and safe manner. By leveraging the latest technologies in UAS, our yards can provide enhanced services in the aftersales inspection, maintenance and repair market."



The collaboration will make use of Sky-Future's drones to obtain better quality inspection information faster and cheaper, and OTD's engineering expertise and experience to provide solutions for a swift analysis and resolution of findings obtained from asset inspection

Ambassadorial visit

The ambassador-designate of Brazil to Singapore, Mr Flávio Soares Damico, visited BrasFELS, Keppel Offshore & Marine's shipyard in Angra dos Reis, Brazil, on 4 April 2016 to learn more about BrasFELS' track record over the years as well as Keppel's people development and community initiatives.

The visit was hosted by Keppel FELS Brasil and BrasFELS representatives led by Mr Marlin Khiew, President of BrasFELS.

Mr Damico also met with BrasFELS employees who had been sent by the company for training and attachment programmes with academic institutions or Keppel O&M's shipyards in Singapore.

Mr Damico wrote in BrasFELS' guest book: "It was with great pleasure that I witnessed the great teamwork of Singaporeans and

Brazilians at BrasFELS shipyard. Together, we build a better future."



The Ambassador-designate of Brazil to Singapore Mr Flávio Soares Damico (fourth from right) was hosted by Mr Marlin Khiew (fourth from left), President of BrasFELS, during his visit to BrasFELS shipyard

Engaging industry partners

As an industry leader, Keppel Offshore & Marine (Keppel O&M) continuously invests in Research & Development (R&D) and engages industry partners

and forerunners in the fields of business and academia.



Mr Ankit Choudhary, Senior Research Engineer, KOMtech, presented on deepwater semisubmersibles and the future challenges in deepwater drilling during the 5th Mobile Offshore Drilling Unit Conference

At the 5th Mobile Offshore Drilling Unit Conference held on 17 March 2016, Mr Ankit Choudhary, Senior Research Engineer at Keppel O&M Technology Centre (KOMtech), presented on deepwater semisubmersibles and the future challenges in deepwater drilling to over 80 delegates from oil and gas companies. The presentation paper was co-authored by Mr Anis Hussain, Programme Director, KOMtech, and Mr Murthy Pasumarthy, Design Manager, Deepwater Technology Group.

Besides sharing on recent trends in the industry, Mr Choudhary also spoke on the growing complexity of deepwater developments in the current low oil price environment.

Rapport with Nantong



Mr Chow Yew Yuen (sixth from left), CEO of Keppel O&M, together with Keppel Nantong's Board of Directors and management hosted a visit by a delegation of government officials led by Mr Cao Jin Hai (fifth from left), District Mayor of Nantong Gangzha District Municipal People's Government, at Keppel O&M



Mr Chow Yew Yuen (left), CEO of Keppel O&M, exchanging views on the offshore and marine industry with Mr Lu Zhi Peng (right), Municipal Party Secretary and Director of the Standing Committee of Nantong People's Congress

With two shipyards – Keppel Nantong Shipyard and Keppel Heavy Industry – in Nantong, China, Keppel Offshore & Marine (Keppel O&M) management regularly meet and have an exchange with the local authorities either in Singapore or China to reaffirm and strengthen ties.

On 8 April 2016, Mr Chow Yew Yuen, CEO of Keppel Offshore & Marine (Keppel O&M) hosted a five-member delegation from

Nantong on a visit to its yards in Singapore.

The delegation, which was led by Mr Cao Jin Hai, District Mayor of Nantong Gangzha District Municipal People's Government, was first given a tour of Keppel O&M's yards, followed by a presentation on the Keppel Group and its core businesses.

Joining Mr Chow in welcoming the government officials were Keppel

Nantong Shipyard's Board of Directors, as well as its President, Mr Edmund Lek.

Apart from reaffirming solid relations between Keppel and Nantong, the visit also generated discussions on future opportunities for collaboration.

Mr Chow continued with the conversation when in conjunction with a Board meeting in Nantong, he led Keppel Nantong's Board of Directors to call on Mr Lu Zhi Peng, Municipal Party Secretary and Director of the Standing Committee of Nantong People's Congress, and Ms Han Li Ming, Nantong City Mayor, on 20 April 2016.

Through the meetings, Mr Chow continued to build rapport with the local government and exchanged business insights such as industry outlook and the challenges it is facing.

Safety excellence



Mr Louis Chow (in foreground, left), ED (Commercial), Keppel Shipyard presents a token of appreciation to Mr Ravi Shankar Srinivasan (in foreground, right), CEO of Shapoorji Pallonji, for Bumi Armada's excellent HSE support to Keppel Shipyard for the FPSO, Karapan Armada Sterling III



Mr Oscar Spieler (fourth from left), Executive Advisor to Golar LNG's Board presented a cheque of US\$10,000 to Mr Albert Kee (extreme left), ED (Operations), Keppel Shipyard for five million man-hours worked without LTI for the topside fabrication work for Golar LNG

Keppel Offshore & Marine's (Keppel O&M) commitment to high safety standards was recently affirmed through safety bonuses and milestones achieved by both its local and overseas yards. To continuously strengthen its safety culture, the group proactively engages its workforce to ensure that messages, programmes and best practices are shared and implemented.

CELEBRATING MILESTONES

On 9 April 2016, Bumi Armada Berhad (Bumi Armada) and

Shapoorji Pallonji awarded Keppel Shipyard with a safety bonus of \$15,000 to commemorate the achievement of one million safe man-hours without lost-time incidents (LTI) for the Floating Production Storage & Offloading (FPSO) project, Karapan Armada Sterling III.

During the event, Keppel Shipyard also presented a token of appreciation to Bumi Armada in appreciation of the strong support rendered to the project team.

Mr Sanjay Dhir, Deputy Project Manager of the project shared, "Operating in a safe environment is our highest priority and Keppel has always gone the extra mile to create a safe and healthy work environment. Our tight partnership with Keppel contributed to yet another safety milestone."

The successfully converted FPSO, Karapan Armada Sterling III, will be deployed to the Madura Strait Block BD in East Java, Indonesia and operated by Husky-China National Offshore Oil Corporation (CNOOC) Madura Limited.

Separately, Keppel Shipyard also marked five million man-hours worked without LTI for the topside fabrication work for Golar LNG. In appreciation of the yard's perfect safety record, Golar LNG presented a cheque of US\$10,000 to Keppel Shipyard on 14 April 2016.

EXECUTION FINESSE

Keppel AmFELS' commitment to quality, safety and execution excellence was demonstrated when the yard in Brownsville, Texas, successfully completed the load-out of two out of five barges for the P209 project. The milestone, including the sailaway of the first barge, was achieved ahead of schedule. The remaining portion of the project is expected to be completed in 2Q 2016.

Since the start of the project, Keppel AmFELS has recorded 2 million man-hours with no LTI to-date.

As part of its safety measures and campaigns, the yard has also been widely promoting and enforcing the Keppel Group's 5 Safety Principles.

Keppel AmFELS project manager, Mr Octavio Gomez, said, "This impressive safety milestone has been achieved with the strong vigilance and teamwork

by all the stakeholders. It is important for us to execute well and stay on schedule. More importantly, while doing so, we need to ensure the safety of everyone. We will continue this uncompromising focus on planning, safety, execution and risk management to ensure the project is delivered with zero LTI."



Keppel AmFELS and its customers achieved a perfect safety record on the P209 project with two million man-hours without LTI



Employees and subcontractors at N-KOM engaging with one another while learning more about safety from the exhibits at N-KOM's first-ever Safety Roadshow

CULTIVATING EXCELLENCE

To cultivate safety excellence among employees and subcontractors, Keppel's joint venture shipyard, Nakilat-Keppel Offshore & Marine (N-KOM), in Doha, Qatar, launched a month-long inaugural Safety Roadshow that started from 8 March 2016. The roadshow carried various safety exhibits highlighting safe work practices and procedures, as well as common work hazards within the shipyard and onboard vessels, and the preventive measures for them.

Mr Allen Felix, GM (Operations), N-KOM, said, "The exhibits were constructed using only recycled paper. The roadshow has hence brought employees of N-KOM together to think not just about safety, but also how to be innovative when it comes to being environmentally friendly."

Following the event, all exhibits will be moved to a safety training centre to be established later this year, forming part of the orientation programme for all incoming personnel. It will also serve to familiarise existing staff and subcontractors with safe work practices at N-KOM.

PROACTIVE ENGAGEMENT

To empower Keppelites with health and safety knowledge, Keppel Housing organised a Health, Safety & Environment (HSE) Roadshow at Acacia Lodge on 25 March 2016. Over 450 residents turned

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up for the roadshow, which was supported by several government agencies, including the Ministry of Manpower, Workplace Safety and Health Council and Health Promotion Board.

During the roadshow, Keppelites received useful information on how they can look after their well-being while working in

Singapore. Besides getting a better understanding of employees' benefits and rights, attendees also picked up practical tips on how they can quit smoking successfully.

Mr Steven Lee, GM, Keppel Housing, shared, "To engage our diverse workforce, we hold regular talks and roadshows across our various dormitories

so that foreign workers uphold high safety standards and are also well acquainted with Singapore's employment laws."

Heartened by the enthusiastic response, Keppel Housing will be extending its HSE roadshows to Juniper Lodge and Cassia @ Penjuru on 2 May 2016 and 29 October 2016 respectively.



Over 450 residents from Acacia Lodge received useful information on health, safety and employment rights at the HSE Roadshow organised by Keppel Housing



Mr Edmund Lek (in overalls), President of Keppel Nantong, explaining to Mr Liu Tao (in brown jacket), Deputy Director of the Chinese State Administration of Work Safety, Keppel Nantong's safety initiatives

SAFETY SURVEY

Mr Liu Tao, Deputy Director of the Chinese State Administration of Work Safety, visited Keppel Nantong to conduct a safety survey on 15 April 2016. The survey is for organisations that were awarded the highest grade of safety certification from the State Administration of Work Safety. Keppel Nantong was awarded the certification in 2014.

At the end of his survey, Mr Liu gave high praises to the culture and systems that were in place, including the robustness of the security cameras, the facilities of the safety training centre, and the attitude of both employees and management towards safety.

To further boost the high level of safety standards at the shipyard, Mr Liu suggested Keppel Nantong to share and exchange best practices with other organisations and the State Administration in Beijing.

Community champion in Subic

Keppel Subic Shipyard not only has a strong presence in the offshore and marine industry of the Philippines, but also has a positive impact on the local community through projects that benefit the locals and win recognition at the same time.

AWARD FOR OUTSTANDING CONTRIBUTIONS

Keppel Subic Shipyard was conferred the Outstanding Community Projects Award by the Philippines Economic Zone Authority (PEZA) on 14 April 2016. The award recognises the shipyard's sterling Corporate Social Responsibility (CSR) efforts.

Keppel Subic Shipyard's CSR footprint in the Philippines include the College Scholarship Programme that nurtures young talents with financial difficulties, the Apprenticeship and Technical Skills Training Programme that provides vocational training for school leavers, and various other volunteer activities.

H.E. Benigno S. Aquino III, President of the Republic of the Philippines, congratulated all the award recipients, "Your being here shows your confidence in Filipinos and your commitment to our economy. Everything that PEZA has done is a reflection of how much we want you to build successful and lasting enterprises in our country."

Mr Leong Kok Weng, President of Keppel Subic Shipyard, who received the award at PEZA's 21st Anniversary celebration and Investors' Recognition



Witnessed by Philippine President H.E. Benigno S. Aquino III (second from right), Mr Leong Kok Weng (extreme right), President of Keppel Subic Shipyard, received the Outstanding Community Projects Award from Dr Lilia B. de Lima (second from left), Director General of PEZA



Employees from Keppel Subic Shipyard planted a total of 100 seedlings in response to a global campaign by Earth Hour Network

Night, said, "We thank PEZA for this recognition. This award strengthens our resolve in our role as good corporate citizens by paying it forward and sharing the responsibility of contributing to the community where we operate."

TREES FOR A GREENER FUTURE

On 22 April 2016, 100 employees from Keppel Subic Shipyard joined participants from over 196 countries around the world to celebrate the 46th Earth Day by planting seedlings in the surrounding areas of the yard.

The initiative is part of the global campaign spearheaded by Earth Day Network, the non-profit

organisation behind Earth Day, which aims to plant a total of 7.8 billion trees by its 50th anniversary. This will translate to a tree for each person on Earth by 2020.

Mr Leong Kok Weng, President of Keppel Subic Shipyard, said "We are proud to be part of this global effort to address climate change by protecting and nurturing the local environment.

"Once these 100 Philippine mahogany and mango seedlings take its roots, it will help stabilise the ground and prevent soil erosion. These trees will also serve as habitat for birds and other animals."

Caring for the community

BrasFELS and its employees continue to make a positive difference to the people and environment of Angra dos Reis through its community projects.



Lissandra Leandro Gomes Bastos (back row, extreme left), Principal of Cornelis Verolme school, with BrasFELS volunteers and students of the Teach-It-Forward programme



Students from the Municipal School João Pedro de Almeida, in Angra dos Reis, participated in BrasFELS' Teach-It-Forward Programme and visited the shipyard on 13 April 2016

SHARPENING MINDS

Volunteers from BrasFELS are supporting the education of 30 third graders at Cornelis Verolme, a public school in Angra dos Reis, Brazil, where the yard is located.

Through BrasFELS' Teach-It-Forward Programme, which began in 2015, the volunteers provide tuition classes in Portuguese and Mathematics to students having difficulties with these subjects.

This year's first run of the programme began on 9 March 2016. Four runs of the programme, lasting five weeks each, will be carried out throughout the year.

"In the first class, the students and volunteers got to know each other through stories and games. The activities highlighted

values such as safety, honesty, responsibility, respect, teamwork and perseverance," explained Ana Carolina Dallarosa, President of the Teach-It-Forward Executive Committee and a Trainee Engineer at BrasFELS.

"I am very happy to be able to make a difference in the society. It is a privilege to help these students, and who knows, be remembered by them in the future as someone who helped them overcome their challenges," said Felipe Grijó, a Trainee Engineer at BrasFELS and member of the Teach-It-Forward Executive Committee.

PASSING ON KNOWLEDGE

Also as part of the Teach-It-Forward programme, BrasFELS shipyard received a group of students and teachers on 13 April 2016 from Municipal School João Pedro de Almeida, in Angra dos Reis.

The students were first taken through a corporate presentation which provided an overview of the company and its culture. Following the presentation, three employees – Rodrigo Maillard, Project Manager; Lívia Pimenta, Planning Auxiliary Technician; and Jhemerson Silva, Apprentice – shared their professional experiences with the students and talked about their personal challenges to achieve their dreams. The visit ended with a yard tour which gave the students a closer look at the operations of a shipyard.

Fourteen-year-old Felipe Moreira said, "I found the visit at BrasFELS very informative. I hope to be back again and have the opportunity to work on building impressive offshore platforms and ships". Also very impressed with the shipyard was 14-year-old Agate Carolina

who shared, "It was a wonderful experience because it gave me a better idea of what a career in the offshore and marine industry is like, especially when it is in a company that has benefitted the local economy and our city for years."

UPCYCLING IN BRAZIL

Responding to a recycling initiative kickstarted by the Department of Tourism of Angra dos Reis (TurisAngra), Brazil, Keppel FELS Brasil's BrasFELS shipyard exercised ingenuity to develop bike racks from leftover materials such as oil drums, pipes and beams. Five sets of these in-house fabricated bike racks, each capable of holding up to 40 bikes, were delivered

to TurisAngra on 7 April 2016. They will be used by tourists and residents of Vila do Abraao and Dois Rios communities in Ilha Grande, an island located off the coast of Rio de Janeiro, Brazil.

Mr Klauber Valente, President of TurisAngra, said, "Urban mobility in Ilha Grande is a great challenge.

There are no vehicles and most of the community use bikes, which are very popular in Ilha Grande, especially in Abraão. I appreciate Keppel FELS Brasil's efficiency in responding to our request. This demonstrates once again, the company's commitment towards community engagement and corporate social responsibility."



Five sets of in-house bike racks made out of upcycled materials were fabricated by BrasFELS shipyard for tourists and the residents of Ilha Grande, Angra dos Reis, Brazil

Sharpening presentation skills



Keppelites learnt how to sharpen their skills in giving presentations from guest speaker, Mr Peter Noble, Technology Advisor at KOMtech

As part of Keppel Offshore & Marine's (Keppel O&M) Technology & Engineering Programme 2015/2016, Mr Peter Noble, Technology Advisor at Keppel O&M Technology Centre (KOMtech), shared on effective presentation over a lunchtime seminar held at Keppel O&M Tower on 11 April 2016.

The seminar, titled Effective Presentation for Management, saw a turn-up of over 100 participants. Mr Noble, who is a naval architect and offshore engineer with a wide range of expertise and experience in the marine and offshore industry, provided participants on

presenting and packaging dense technological information in an engaging and impactful manner for customers and industry experts.

Huang Kuangwei, Assistant Project Manager, Keppel FELS, who attended the session, said, "Mr Noble provided us with a number of useful tips for presentation which included categorising the information, giving analogies, simplifying the language and being mindful of your audience to reinforce our key message. This is important especially when communicating effectively with our clients and vendors is a critical part of our job."

Maritime excitement

Held from 17 to 22 April 2016, Singapore Maritime Week 2016 consisted of more than 30 events across the island, including conferences and exhibitions. Keppel was a proud participant of two of the events.



The winning team from Keppel Shipyard (in blue) were presented with the third-place prize from (in white, from L-R): Mr Andrew Tan, CEO, Maritime Port Authority of Singapore; Mr Chow Yew Yuen, CEO, Keppel Offshore & Marine and President, Association of Singapore Marine Industries; Mr Andreas Sohmen-Pao, Chairman, Singapore Maritime Foundation and Mr Esben Coulson, President, Singapore Shipping Association



A painting of Keppel FELS Gul Yard by Mr Wong Hai from the Singapore Watercolour Society for the Art Exhibition, Memoirs of City Port Scenes

AMAZING MARITIME CHALLENGE

The Amazing Maritime Challenge saw over 800 participants pit their wit and strengths against each other on 17 April 2016 to complete a series of games around Singapore.

Keppel Corporation is once again a proud co-sponsor of the challenge, organised by the Maritime and Port Authority of Singapore (MPA) and designed to allow participants to learn more about Singapore's rich maritime heritage.

Sixty Keppelites joined in the maritime-themed games and true to its *Can Do!* spirit, a team from Keppel Shipyard bagged third prize in the corporate category.

Team leader, Finian Lim, Quality Assurance Engineer, Keppel Shipyard, shared, "Each of us has

different strengths but we worked closely together to come up with the best strategy so that we can complete the challenge in the shortest possible time. I am glad to have forged stronger friendships with fellow colleagues and to have a better understanding of Singapore's maritime history. Our victory makes this experience all the more sweeter."

MEMOIRS OF CITY PORT SCENES

Also held in conjunction with Singapore Maritime Week 2016, MPA collaborated with artists from the Singapore Watercolour Society and students from Pathlight School to produce a total of 54 art pieces for an exhibition themed Memoirs of City Port Scenes.

Held from 8 to 22 April 2016 at the Visual Arts Centre, the exhibition aims to preserve the images and

landscape of Singapore's port and maritime industry through artistic strokes using markers, watercolour, colour pencils and acrylic.

Five of the 54 art pieces feature yard scenes from Keppel FELS and Keppel Shipyard, which had earlier given a yard tour to participating artists from the Singapore Watercolour Society to help them in producing their paintings.

Mr Andrew Tan, CEO of MPA, who opened the exhibition, said, "The Port of Singapore belongs to all Singaporeans and the works showcased embody the integral role our port has played in the lives of Singaporeans who live in a country where almost everything has to be imported via the sea. We hoped that through the exhibition, future generations will remember our maritime heritage."

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Keppel secures FPSO project in Brazil

Keppel Offshore & Marine (Keppel O&M) announced on 6 April 2016 that its subsidiary in Brazil, Keppel FELS Brasil's BrasFELS shipyard, has been awarded a Floating Production Storage and Offloading (FPSO) module fabrication and integration project by its repeat customer MODEC Offshore Production Systems (Singapore) Pte. Ltd., a MODEC, Inc. group (MODEC) company.

BrasFELS' work scope for this project comprises the fabrication and integration of nine topside production modules for the FPSO Cidade de Campos dos Goytacazes MV29. The FPSO is expected to arrive at the shipyard by the first quarter of 2017 for the integration phase.

As the most established offshore shipyard in the Latin American region, BrasFELS has successfully completed a range of construction, integration, upgrading and repair projects over the years.

Mr Kwok Kai Choong, CEO and President of Keppel FELS Brasil said, "We are pleased to support our long-standing customer MODEC with another important project for Brazil's oil and gas industry. Having delivered a number of milestone offshore and marine projects for the country, BrasFELS has built up a strong track record and established itself as a provider of offshore solutions with strong local content. Our yard is committed to deliver all of our projects with Keppel's hallmark executional excellence."



Keppel's BrasFELS shipyard has a strong track record of delivering milestone projects for Brazil. It previously delivered FPSO Cidade de Mangaratiba MV24 to MODEC in 2014, ahead of schedule

When completed, the FPSO will have the capacity to process 150,000 barrels of oil per day and five million cubic metres of gas per day. The unit's storage capacity is 1.6 million barrels of oil.

Slated to depart the shipyard in the third quarter of 2017, the FPSO will be deployed at Tartaruga Verde and Tartaruga Mestiça Fields, in the Campos Basin, off the coast of Rio de Janeiro.

Mr Sateesh Dev, Executive Managing Officer of MODEC, Inc. said, "We are very pleased to work with BrasFELS on a fifth FPSO project as they have always delivered to our satisfaction. Three units, which have been completed safely and ahead of schedule, are operating successfully in their respective fields. We look forward to working with them on our latest two FPSO collaborations.

"Brazil has one of the most significant offshore oil reserves in

the world. We are confident of the long-term goal by Brazil to increase oil production and our partnership with a reputable yard like BrasFELS enables us to meet its needs in a timely and safe manner."

BrasFELS' current job for MODEC is the integration and commissioning of the FPSO Cidade de Caraguatatuba MV27.

The FPSO is expected to arrive at BrasFELS in the second quarter of 2016, and will be deployed in the Lapa Field, Santos Basin, Brazil.

BrasFELS recently delivered the FPSO Cidade de Itaguaí MV26 to MODEC in mid-2015. The FPSO achieved first oil production four months ahead of schedule, in the Iracema Norte Area of Lula Field in Brazil.

In the past five years, BrasFELS delivered five FPSO projects safely and ahead of schedule, of which three were for MODEC.