OFFSHOREMARINE



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An active participant in Brazil's oil and gas sector, Keppel O&M secured multiple contracts for its Brazilian shipyard, BrasFELS. This includes the contracts for the design of five semisubmersible drilling rigs (in image) and the fabrication and integration of modules for three Floating Production Storage and Offloading vessels.

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First KFELS B Class jackup for Kazakhstan

Keppel O&M's Near Market, Near Customer strategy has paid off as Keppel Kazakhstan and its consortium partner Ersai Caspian Contractor LLC, Kazakhstan (Ersai Caspian Contractor) have secured a contract for a KFELS B Class jackup rig.

The contract was awarded by Teniz Burgylau LLP (Teniz Burgylau), an indirect wholly-owned subsidiary of JSC NC "KazMunayGas" (KazMunayGas) of Kazakhstan.

Scheduled for delivery in 1Q 2015, the jackup rig will be deployed in the Caspian Sea when completed. The work scope of the rig will be shared equally among the two members of the consortium.

Keppel O&M is a 50% shareholder of Keppel Kazakhstan.
Mr Chow Yew Yuen, COO of Keppel O&M, said, "We are pleased that Teniz Burgylau has placed their confidence in our yard in Kazakhstan and in our proven KFELS B Class design. With Kazakhstan's vast oil and gas reserves, our yard in Kazakhstan, which has been operating in Aktau since 2003, stands ready to support the country as it unlocks and realises its production potential."

Oil and Gas Journal reported in January 2010 that Kazakhstan has an estimated 30 billion barrels of proven oil reserves and 85 trillion cubic feet of natural gas reserves.

Mr Chow added, "Together with our consortium partner, we at Keppel look forward to delivering a high quality rig to Teniz Burgylau safely, on time and within budget. With 34 rigs in operation and another 19 on order, the KFELS B Class design has been the rig of choice for drilling."

Mr Nurlan Bekzhanov, General Director of Teniz Burgylau said, "Kazakhstan aims to steadily increase its oil and gas production to become one of the world's top oil and gas producers and exporters. Teniz Burgylau is grateful to its shareholders KazMunayGas and KazMunayTeniz for the given opportunity to contribute towards this target by stepping up our drilling operations.

"For our rig, we have decided on the KFELS B Class jackup design as it is an industry benchmark for such rigs. With the established track record of Keppel O&M as the world's leading offshore rig designer and builder, and its presence in Kazakhstan, we believe we have chosen the right partners to provide our first jackup drilling rig."

This KFELS B Class jackup, designed for the Caspian Sea, is able to operate in water depths of 262 feet, upgradeable to 400 feet, and can drill to depths of a maximum of 20,000 feet. This rig will incorporate Keppel's advanced and fully-automated high capacity rack and pinion elevating system, and Self-Positioning Fixation System. It will provide maximum uptime with reduced emissions and discharges.

Keppel Kazakhstan's track record of projects include the fabrication of a series of Pipe Rack Modules, Pontoons, Hook Up Structures and the building of seven Ice Class Self Ballasting Transportation Barges for Agip Kazakhstan North Caspian Operating Company (Agip KCO), for the Kashagan field development. Keppel Kazakhstan is also the first yard in Kazakhstan to launch a steel floating vessel into the Caspian Sea.



Fourth accommodation semi for Floatel



The new semi will be built to the proven Floatel Superior design, a DSS™ 20NS design developed by GustoMSC and Keppel FELS' Deepwater Technology Group. Equipped with Dynamic Positioning (DP) 3 capability, it will meet the most stringent rules and regulations for worldwide operations including the Norwegian Sector

Keppel FELS has finalised a contract with Floatel International to build a new-generation harsh environment accommodation semisubmersible (semi) rig. This follows the Letter of Intent announced by Keppel and Floatel earlier in March this year.

This will be Floatel's fourth accommodation semi with Keppel FELS after the delivery of Floatel Superior and Floatel Reliance in 2010 and the order of Floatel Victory in 2011, which is scheduled for delivery in 4Q 2013.

With delivery in early 2015, the new semi will be built to the Floatel Superior design, a DSS™ 20NS design developed by GustoMSC and Keppel FELS' Deepwater Technology Group. Equipped with Dynamic Positioning (DP) 3 capability, it will meet the most stringent rules and regulations for worldwide operations including the Norwegian Sector.

Well-equipped with a host of modern facilities, the semi will have a large payload and deck area in combination with dual cranes, making it ideal for construction support during new construction, maintenance activities or for decommissioning projects of offshore oil and gas installations. It will be able to accommodate 440 persons in single bed cabins with ample recreation areas as well as office amenities.

Mr Wong Kok Seng, MD of Keppel FELS, said, "Keppel-built and designed accommodation semis have proven their worth wherever they have been deployed. We are proud to note that all our semis for Floatel have been chartered with good performances and are pleased to support them as they grow their fleet to become a leading operator in their niche. We look forward to provide yet another highly capable accommodation semi to Floatel safely, on time and within budget."

Floating accommodation
platforms are needed to provide
additional living quarters for
support personnel in exploration
and production activities. Such
support personnel are needed
during hook-up and commissioning
in the development phase, for
maintenance and upgrading
during the production phase, as
well as for decommissioning.

The two Floatel rigs delivered in 2010, Floatel Superior and Floatel Reliance, have been chartered to Statoil in the Norwegian sector of the North Sea and to Petrobras in Brazil's Campos Basin respectively.

Floatel Victory which is scheduled for delivery by Keppel FELS in 4Q 2013 has secured a charter with Chevron USA for its Jack St Malo field and with BP Exploration Operating Company for the Clair Ridge Development project on the UK Continental Shelf.

Delivering a landmark vessel

One of the world's largest offshore wind turbine installers and the first to be built in Singapore, Seafox 5 is able to operate in up to 65 metres (m) water depth in harsh environments – the deepest for such vessels.

Keppel FELS is on track to deliver Seafox 5, one of the largest and most advanced multi-purpose offshore wind turbine installers of its kind to the Seafox Group, ahead of time and with an impressive safety record.

Built to Keppel's proprietary Multi-Purpose Self-Elevating Platform (MPSEP) design, Seafox 5 is a new-generation offshore wind turbine installation vessel that can withstand harsh offshore environmental conditions all year round in the deeper waters of the North Sea.

Measuring 50m wide and 151m end-to-end, Seafox 5 will be

among a handful of purpose-built jackups with a 1,200-tonne heavy lift capacity and capable of installing both turbines and large foundations exceeding 800 tonnes in weight.

Mr Wong Kok Seng, MD of Keppel FELS, said, "This achievement demonstrates

Continues on page 6...



our ability to leverage our R&D and execution capabilities to participate and add value effectively in a segment of the market which is relatively new to Keppel. Together with our other investments, we believe we are well-poised to take on a larger slice of the global offshore wind market.

"We will continue to use our market knowledge, rig technology and construction expertise to offer prime solutions that enhances the productivity of installing and maintaining offshore wind farms at various phases."

Seafox 5 has already been chartered to the joint-venture company of Aarsleff Bilfinger Berger (ABJV) Dan Tysk to install offshore wind foundations in the 288 megawatt (MW) Dan Tysk wind farm in the German Sector of the North Sea.

Mr Keesjan Cordia, CEO of Seafox, shared, "The fact that Seafox 5 has already received a charter for immediate work speaks of the strength of the MPSEP design, the reputation of Keppel-made products and Seafox's track record in multi-support service jackups across the world.

"We see that demand for such vessels will continue to rise with the commercialisation of 5MW wind turbines over the next few years. Seafox 5 is a new generation vessel which will be able to



Guest of Honour, Mr Tan Chuan-Jin (centre), Singapore's Acting Minister for Manpower and Senior Minister of State, Ministry of National Development, together with Lady Sponsor, Mrs Marlies Cordia (centre, in red); with senior management from Keppel O&M, Seafox contractors, Workfox and ABJV

out-perform existing marine assets both on cost and efficiency in wind installation. In addition, this state-of-the-art vessel has been specifically designed to meet all the requirements of both the offshore wind and the oil & gas industries in harsh environments."

At the naming ceremony on 18 August 2012, Guest-of-Honour, Singapore's Acting Minister for Manpower and Senior Minister of State for National Development, Mr Tan Chuan-Jin said, "As the first offshore wind turbine installation vessel built in Singapore, Seafox 5 marks a significant milestone in the capabilities and innovation by a Singaporean shipyard. I am

glad to learn that, in line with Singapore's push for increasing productivity, Keppel has been able to deliver this vessel more than a month ahead of schedule and with an excellent safety record."

Wonder women



The females behind Seafox 5 are amongst the growing number of women in the maritime industry: (L-R) Gooi Ling Huey, Project Engineer, Adeline Seah, Project Manager and Tan Yan Han, Mechanical Superintendent

Six women were among the more than 700 people working on Seafox 5 daily who helped deliver the veseel safely, ahead of schedule and on budget. Although few in number, these women were instrumental to the success of the project.

In the offshore and marine industry largely dominated by men, female participation is growing and more women are taking on more important roles. Keppel O&M's operations in Singapore has some 230 female engineers today compared to about 50 in 2002.

Acting Minister for Manpower, Mr Tan Chuan-Jin who was at the naming ceremony of Seafox 5 highlighted Ms Adeline Seah, Keppel's Project Manager for Seafox 5, as a prime example. He said, "Through her own hard work, the training opportunities sponsored by Keppel and the company's progress in the industry, Adeline worked her way up to her current position as the first female Project Manager working on one of the world's largest wind turbine installation vessel, a laudable breakthrough on both fronts for Keppel. And on top of that, she is also a mother of two."

Adeline, 30, said, "When I first joined the company eight years ago, they were skeptical of my abilities. I had to prove that I was just as capable as my male counterparts. I do feel a sense of pride in being the company's first female project manager and I am always happy to mentor my younger female colleagues on progressing through this career path."

Project Engineer Gooi Ling Huey, 28, and Mechanical Superintendent Tan Yan Han, 27, are also one of the first few females in their posts. As university graduates, they started in leadership positions and recall having to prove themselves to their male colleagues and project a no-nonsense image in the early stages of their career.

When Ling Huey joined Keppel in 2007, she was the only female on a project she was working on. Normally reserved, she had to become more assertive. However, being female offers its advantages as well. She said, "We offer a softer approach in this tough environment and that could sometimes help get things done more efficiently. Sometimes, by offering a different perspective, we can get the subcontractors and vendors to support us with what we need."

Yan Han, who joined in 2008, assimilated quickly to the culture. "From the start, once I got to know my team, I was very firm with them. I had to assert myself and show them I mean business. At the same time, we have to build rapport and show that we are part of the same team." A graduate from the Nanyang Technological University, Yan Han will be furthering her studies on a Keppel FELS sponsorship in the KTH Royal institute of Technology in Sweden.

Partnering select tertiary and technical institutions to offer scholarships and internship opportunities is part of Keppel O&M's efforts to attract more young Singaporeans to the maritime industry.

Triple win

Bolstering its reputation as the choice yard for conversion and upgrading works, Keppel Shipyard has secured contracts from PTSC Asia Pacific Pte Ltd (PTSC Asia Pacific), Perenco Group (Perenco) and BC Petroleum Sdn Bhd (BC Petroleum).

The late Mr Nelson Yeo, who was MD of Keppel Shipyard, had shared, "We thank PTSC Asia Pacific, Perenco and BC Petroleum for their confidence in our capabilities and entrusting us with these projects. Working closely with our customers, we will continue to enhance and extend our capabilities, and ensure safe and quality deliveries."

The contract from PTSC Asia Pacific, which is a joint venture between PetroVietnam Technical Services Corporation (PTSC) and Yinson Holdings Berhad (Yinson), is to convert a tanker to a Floating Production Storage and Offloading (FPSO) unit.

Work on the FPSO will commence in 3Q 2012 and is scheduled to complete in 3Q 2013. When delivered, the FPSO will be deployed in the Thang Long and Dong Do oil fields which are located in the Cuu Long Basin, offshore Vietnam. The FPSO will be capable of producing 15,000-20,000 barrels of oil per day (bopd) and has a storage capacity of up to 650,000 barrels of oil.

The work scope includes refurbishment and life extension works; fabrication and installation of the flare tower, helideck, pipe racks and power generation module; installation and integration of topside process modules and external turret; and upgrading the accommodation facilities.

For the Perenco contract, Keppel Shipyard will convert a tanker to a Floating Storage and Offloading (FSO) unit. The yard's work scope includes refurbishment and life extension works, accommodation upgrading, installation of new machinery, mooring structures and helideck as well as tank coating works.

Works will commence in 3Q 2012 and are scheduled to complete in 1Q 2013. The converted unit will be named FSO Mayumba, and it will be stationed in the Lucina field, offshore Gabon.

As for Keppel Shipyard's contract with BC Petroleum, it is for the modification and upgrading of a tanker to an Early Production Vessel, EPV Balai Mutiara. The work scope includes refurbishment and life extension works; fabrication and installation of flare tower and helideck; integration and modification of process module and the upgrading of the accommodation facilities. When completed, EPV Balai Mutiara will be deployed in the Balai Cluster oil fields, offshore Malaysia.



Completed for Cameroon



FSO Massongo adds another link to the growing chain of successful projects between Keppel Shipyard and Perenco

The new contract awarded by repeat customer Perenco to Keppel Shipyard follows on the back of a series of successful collaborations, the latest being the FSO Massongo.

The FSO project, which is Keppel Shipyard's third collaboration with Perenco, departed from Keppel Shipyard's premises on 9 August 2012, providing the yard with yet another reason to celebrate on Singapore's National Day.

Reflecting the two companies' strong partnership and commitment to safety, a perfect safety record of more than 1.35 million safe man-hours had been recorded on the project.

The vessel was named on 29 July 2012 by the Lady Sponsor Madame Nathalie Samani-Perrodo, the sister of the Chairman of Perenco.

FSO Massongo will be deployed in offshore Cameroon. It will replace FSO Kingsway, operating in Rio del Rey Basin, and FSO Moudi, located at the Moudi Field. Converted from a very large crude carrier, FSO Massongo has a storage capacity of two million barrels of oil.

The late Mr Nelson Yeo, who was MD of Keppel Shipyard had said, "It has been Keppel's privilege to support our repeat client, Perenco in the expansion of their offshore fleet."

Keppel Shipyard's first conversion project for Perenco was Fernan Vaz, which was completed in 2005. The yard's second conversion project for Perenco, Kalamu FSO, was completed in 2008. Keppel Verolme, Keppel Shipyard's sister yard in the Netherlands, has experience working with Perenco as well; it delivered a Mobile Offshore Application Barge to the company in 2005.

Mr Denis Clerc Renaud, GM Cameroon of Perenco, asserted that FSO Massongo will provide crucial support to Cameroon's aspirations for higher levels of oil production. He expressed appreciation towards Keppel Shipyard's dedication to safety as well as patience, care and professionalism on the project, attributes which have ensured a smooth conversion.

Delighted with the steady progress of the FSO Massongo project, Mr Simon Paley, Commercial Director of Société Nationale des Hydrocarbures – Cameroon's national oil company – thanked Perenco and Keppel Shipyard for contributing to the development of oil and gas in his country.

Tribute to a true Keppelite



Possessing a deep care for his people and the community, the late Mr Nelson Yeo, who was MD (Marine) of Keppel O&M and MD of Keppel Shipyard, championed numerous workplace safety and social development projects



Admired and appreciated for his sincerity, integrity, passion and vision, the late Mr Nelson Yeo, who was MD (Marine) of Keppel O&M and MD of Keppel Shipyard, helped steer Keppel Shipyard to its present leading position in ship repair, conversion and upgrading services

The late Mr Nelson Yeo, the former MD of Keppel Shipyard and Keppel O&M (Marine), was the embodiment of Keppel O&M's core values and was well-regarded and well-liked by all who knew him.

With Keppel O&M for 30 years, Nelson's selfless dedication to his work, the welfare of his colleagues and the needs of his customers was instrumental to the growth and success of Keppel O&M.

Admired and appreciated for his sincerity, integrity, passion and vision, he helped steer Keppel Shipyard to its present leading position in ship repair, conversion and upgrading services.

With a deep care for his people and the community, he championed numerous workplace safety and social development projects.

His sudden passing on 4 September 2012 brought an out pouring of condolences and tributes from colleagues, customers, business partners and friends alike.

OffshoreMarine shares some of these kind words:

"With his positive attitude, high energy and commitment to delivering his promises, he reached out to all his men, to customers, business partners and subcontractors, living Keppel's core values. We share the loss and grief suffered by his beloved wife, Siew Hua and sons, Ivan and Gary." Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M

"With Keppel for 30 years, he was a core member of the Keppel family and a stalwart of the industry. Nelson was dynamic and passionate in everything he did. Embodying the Keppel Can-Do! spirit, he was always ready to roll up his sleeves to tackle challenges hands-on. Through his sincerity and deep care for his people, he cultivated a united workforce. Dedicated to his customers, he earned their respect and loyalty. Nelson's untimely death is a loss to everyone who knew him and the industry." Mr Chow Yew Yuen, COO of Keppel O&M

"Many senior members of our team had close working relations with Nelson and enjoyed his cheerful working style and leadership. Indeed, at SBM, Nelson's name above all others is associated with the rich history and strong relationship that exist between our two companies. We recognise that Nelson's energy, enthusiasm and positive outlook were the instruments upon which the Keppel-SBM collaboration is based and these qualities have become the core values upon

which our teams now work together. Nelson will be dearly missed by you and by us but be assured that his fundamental contribution to the foundations of our relationship will always be remembered."

Bruno Chabas, CEO of SBM Offshore

"Nelson Yeo a close friend of Bumi Armada and a personal friend of mine. His passing is a great loss to Keppel, to his family and to the industry at large. I would like to assure Keppel of Bumi Armada and my total support. I would also like to reiterate our commitment to continue to work with Keppel in the same spirit as before since our companies share the same core belief of sustainable value creation and complementary collaboration, as well as the passion for perfection, continuous improvement and wealth generation for all our stakeholders."

Hassan Basma, ED and CEO of Bumi Armada

"He was a charming, clever, capable man who will be sorely missed by his family, friends and oil industry colleagues. Keppel and Singapore have lost a home-grown hero and we are all worse off for that."

R. A. Allan, Director of Premier Oil PLC

"I have known Nelson for a long time, and I know him as one of the most honest, knowledgeable and hard working people in the industry. He was a caring person, caring about the customers and their families' well-being, and we grew a very close friendship over the years."

Oscar Spieler, Executive Advisor to the Board of Golar LNG

"In the time that I have known him, I have regarded him as someone with utmost integrity as well as a true friend indeed. He has demonstrated to me over and over again his support towards my company without any hesitation for which I am grateful for. Though our meetings are few, I am truly honored to have known such a man. What is comforting to me is that I know he ran a good race and fought a good fight."

Datuk Shahrazi Sha'ari, Group MD and CEO of M3nergy Berhad

"I was so sad to hear of Nelson's untimely passing – what a terrible shock. He was such a wonderful and cheerful character who stood out in the industry and will be truly missed. My heartfelt condolences and also from the whole BW Group to the Keppel family."

Andreas Sohmen-Pao, Group CEO of BW Group

"I was deeply shocked and saddened to hear of Nelsons passing. He was a great man and I considered him to be a personal friend as well. My deepest sympathies go out to you all. He will be greatly missed."

Paul Illingworth,
CEO of SSP Offshore

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The late Mr Nelson Yeo, who was MD(Marine) of Keppel O&M and MD of Keppel Shipyard, had been helped drive the development of the Keppel-GK Eco Village, a 60-unit housing project for the needy families in the Philippines

"I, along with several key managers in Saipem who had gotten to know Nelson Yeo over the past few years, wish to convey our most sincere condolences to his family and to you all. I know that Nelson's unique talent, personality, professionalism and deep sense of honour permeated Keppel and contributed to making Keppel what it is today. " Hugh O'Donnell,

Deputy CEO of Saipem S.p.A

"My family and my colleagues at Magsaysay and Fairmont express our shock and extreme sadness at the loss of our dear Nelson. Since we first met Nelson in the early days of Subic Shipyard, we knew that our partnership with Keppel was in good hands. Very seldom in one's lifetime does one meet a man of such dynamism, vision, courage, compassion, energy and integrity, and many of us in my family and our company consider

ourselves fortunate to have known and be touched by him." Doris Ho. President & CEO of Magsaysay Maritime Corporation

"It is with profound regret and sadness that I learnt of the passing away of Mr Nelson Yeo, Managing Director. I am sure Mr Yeo's vision and leadership will be greatly missed, but it will be inherited by all the staff."

Koichi Muto, President of Mitsui O.S.K. Lines

"We were very saddened with the untimely passing away of Nelson Yeo, we share his loss and we pass our sympathies to his family and colleagues at Keppel. We will always remember him for that outstanding level of positive energy, and as a nice and reliable partner. Please accept our sincere condolences from all of us who knew him in Petrofac, may his soul rest in peace."

Maroun Semaan, President of Petrofac

"Please accept and convey my sincere condolences on the tragic loss of my good friend Nelson. I can't believe that he is gone. Regardless of whether work was going well between us or if difficult, Nelson had a rare quality for putting work in perspective and remaining good friends. I will truly miss him." Rick Hall.

Fxec VP & COO of MODEC International and President & CEO of SOFEC Inc.

"We will always remember the open and friendly treatment we received from him. Nelson was an example of how to be a partner in business, he was always ready to provide good advice. On behalf of OSX, we send condolences to Nelson's family and to the workforce of Keppel Offshore & Marine."

Carlos Bellot, CEO of OSX

"The CMA CGM team presents our deepest condolence to Mr Nelson Yeo family and share the pain felt by Keppel's staff. Nelson was always concerned about our ship repair projects and has always been helpful to us."

Giancarlo Brosolo, Fleet manager of CMA Ships (part of CMA CGM Group)

"The whole GK (Gawad Kalinga) family extends our sincere condolences to the Keppel family and to the family and friends of Nelson. He helped many families in many communities; helped to create opportunities for them for a better life. We find inspiration in his passion for service."

Paolo Roberto C. Domondon, GK1World (Singapore) Ltd. (An affiliate of Gawad Kalinga, a charity organisation headquartered in the Philippines)

Optimal operations



Managements of KSM Brasil and GNL celebrating the keel laying of the second 4,500 deadweight tonne Platform Supply Vessel on 31 July 2012

Keppel Singmarine Brasil (KSM Brasil) celebrated the keel-laying of its second 4,500 deadweight tonne (dwt) Platform Supply Vessel (PSV) project on 31 July 2012.

The vessel is built to Keppel O&M's proprietary MTD 9045-DE design for the group's Brazilian shipowning arm, Guanabara Navegacao Ltda (GNL). This vessel is expected to be completed in second guarter of 2014.

The construction of this PSV is in line with GNL's business model to build offshore support vessels in anticipation of rising demand in Brazil. The two vessels will be offered for bare-boat charter or sale upon completion.

Earlier in the year, in March 2012, KSM Brasil marked the simultaneous keel-laying of its third and fourth harbour tugboats for REBRAS – Rebocadores do Brasil S.A. (SMIT Rebras). Named SMIT PARANA and SMIT PAYAKU, the two projects have made steady progress, and are scheduled for delivery in third and fourth quarter of 2013.

KSM Brasil's scope of work for the tugboats includes detailed design and engineering work and the purchase of all equipment. These Robert Allan-designed tugboats will be deployed by SMIT Rebras to work at key ports across Brazil.



KSM Brasil marked the simultaneous keel-laying of its third and fourth harbour tugboats, SMIT PARANA and SMIT PAYAKU, for SMIT Rebras in March 2012

Sustaining market leadership

At its second strategy meeting for the year, Keppel O&M's top executives gathered to take stock of the year's progress and discussed the path ahead for the company to strengthen its execution excellence and extend market leadership.



Keppel O&M's key representatives gather twice a year to discuss the group's business strategy (top row, L-R): the late Mr Nelson Yeo, former MD(Marine) of Keppel O&N Keppel O&M, and Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M; Mr Loh Chin Hua, CFO of Keppel Corporation and Board Director of Harold Linssen, MD of Keppel Verolme; Mr Chandru Sirumal Rajwani, President of Caspian Shipyard Company; Mr Aziz Merchant, ED (Deepwater Technology) of KOMte President & CEO of Keppel AmFELS

With the external global environment remaining volatile and uncertain, Keppel O&M is staying vigilant to sustain its competitive edge while seeking ways to enhance value for its stakeholders.

For the year to date, Keppel O&M has seen healthy contract wins by its yards in Singapore, Brazil, Kazakhstan and the United States. As at 21 August 2012, Keppel O&M has secured new orders worth

around \$8.8 billion, with net order book of over \$14 billion extending to 2015. The robust order flow is a testament to Keppel O&M's successful Near Market, Near Customer strategy.

As the yards get underway to execute these orders, the Keppel O&M Strategy Meeting on 7 and 8 August 2012 provided a timely platform for the top executives across the group's global network to be reminded that the projects

must be executed and completed to the quality and standards expected of Keppel by its customers.

At the Strategy Meeting themed "Strengthening Execution Excellence, Extending Market Leadership", Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M, said that with competition grows more intense by the day, and that the group needs to be innovative and "find new business models" to stay ahead of the game.



II and MD of Keppel Shipyard; Mr Michael Chia, MD(Technology) of Keppel O&M; Mr Chow Yew Yuen (YY Chow), COO of Keppel O&M, Mr Tong Chong Heong, CEO of Keppel O&M, and Mr Wong Ngiam Jih, CFO of Keppel O&M; Mr Wong Kok Seng, MD of Keppel FELS; (second row, L-R) Mr Hoe Eng Hock, ED of Keppel Singmarine; Mr ch and ED(Engineering) of Keppel FELS; Mr Kwok Kai Choong, President & CEO of Keppel FELS Brasil; Mr Yick Ping Wong, ED of Keppel Kazakhstan; Mr Tan Geok Seng,

He added that while meeting the complex challenges of the day, the group must also ensure that it meets the needs of its key stakeholders like customers, employees, suppliers and contractors.

Echoing the message conveyed by Mr Choo, Mr Tong Chong Heong, CEO of Keppel O&M, commented that the service mindset must be maintained at all times to enable the group to know the needs of its customers and the market, so that it can develop

the required solutions. This keen market sense has served Keppel O&M well through the years and needs to be continually honed.

Financial prudence was another topic which Mr Tong elaborated. He emphasised the need to optimise the utilisation of resources and to leverage Keppel's technology advantage to continually improve work processes to enhance productivity.

Mr Michael Chia, MD (Technology),

Keppel O&M, has been tasked to harness the strengths of the various technology arms to more effectively develop leading edge offshore and marine solutions for the market, as well as productivity enhancement initiatives for the group.

Over the years, such strategy meetings have proved to be useful platforms for key executives of the Keppel O&M group to gather, exchange ideas and views and share information.

Leading on technology

Since April 2012, all technology units of Keppel O&M were brought under one umbrella – the Technology Division – to fortify the group's commitment to advancing its technology leadership. Mr Michael Chia, MD (Technology) shares his priorities for the new division with Offshore Marine.



Mr Michael Chia has assumed the role of MD (Technology) of Keppel O&M since June 2012

"Since coming onboard in June 2012, I have felt that I have returned to my roots. As an engineer by training, I am able to share my many years of experience in the offshore and marine industry and I hope this will translate to more purposeful research and production innovation for Keppel O&M. As I have been involved in the operations and yard improvement processes work in Keppel FELS, I look forward to bringing the **Technology Division to greater** heights with our team of excellent researchers and engineers."

Mr Michael Chia. MD (Technology), Keppel O&M

Q: WHAT IS THE ROLE OF THE TECHNOLOGY DIVISION?

Over the years, our sustained efforts in enhancing and developing new technologies have been met with success, adding value to our businesses. It has allowed us to move from being a fabricator to a solutions provider.

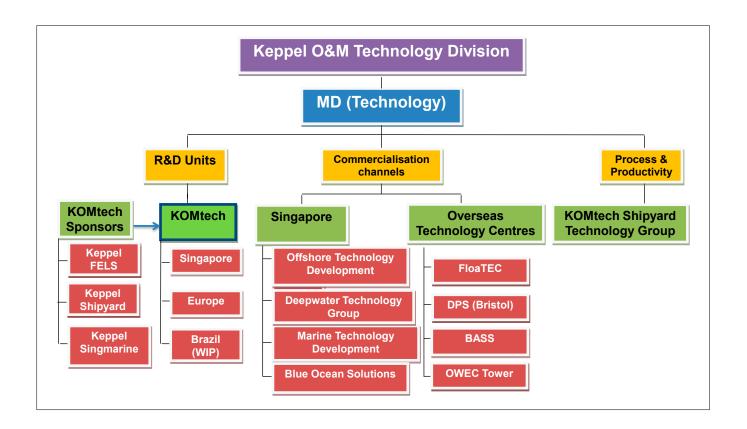
It is very timely to put more emphasis on technology as part of our winning formula for our offshore and marine business. Our aim is to leverage technology as our key competitive differentiator and growth driver for Keppel O&M.

Apart from research and development (R&D) that will continue to be conducted under Keppel Offshore & Marine Technology Centre (KOMtech), the Technology Division will be responsible for process technology aimed at improving productivity in all our yards as well as seeing through the successful deployment of technology in line with the group's business thrusts.

Our top priority is to set up a platform enabling different units to work together to provide a full spectrum of solutions that can best cater to the needs of our customers. With this new Division, we have created more collaboration opportunities and synergies between the R&D units in KOMtech and our commercialisation arms such as Offshore Technology Development (OTD), Deepwater Technology Group (DTG) and Marine Technology Development (MTD).

This will allow us to achieve a more seamless approach from concept generation to commercialisation. It also provides our engineers and researchers with a wider career perspective and job opportunities within Keppel O&M.

In addition, our KOMtech Shipyard Technology Group aims to improve



the processes and the productivity levels in our local and global shipyards. This will be done in a more holistic manner, including transferring of well-tested technologies and best practices amongst our yards.

Q: HOW IS THE TECHNOLOGY DIVISION STRUCTURED?

We have streamlined the research areas in KOMtech into shallow water and deepwater groups. The shallow water group focuses on areas such as the Arctic jackup, offshore wind, Liquefied Natural Gas (LNG) applications and environmental solutions related to oil and gas. As for the deepwater group, it concentrates on areas such as ultra harsh-environment semisubmersibles and tension leg platforms and drillship designs for deepwaters.

In addition, we are also building on our KOMtech brand



KOMtech provides new specialised capabilities and upstream R&D of new product designs

name overseas. Following the establishment of KOMtech (Europe) under Keppel Verolme in 2010, we are now in the process of setting up KOMtech (Brazil) to tap on the resources and expertise from CENPES, the R&D centre of Petrobras and Brazilian universities.

With the formation of the Technology Division, there have

been increased interactions between researchers and engineers from the various groups. Instead of being part of a small unit, they see themselves belonging to a bigger division where they can apply their knowledge across various domains.

Growing through innovation



Mr Tong Chong Heong, CEO of Keppel O&M, sharing with officers from the Ministry of Finance on Keppel's growth through innovation

There was a time when the offshore and marine industry suffered from a severe downturn and was even labelled a sunset industry. To survive, Keppel had to enhance and evolve its business model, technologies, processes, partnerships and people development strategies.

At the Ministry of Finance's Exchange 2012 event, Mr Tong Chong Heong, CEO of Keppel O&M, explained how the group overcame tremendous difficulties and re-invented itself to achieve its present success.

Held at the Civil Service College on 11 July, the Exchange was a

learning platform for the Ministry's officers.

Outlining Keppel O&M's initiatives to sharpen the group's competitive edge, Mr Tong addressed the event's theme which was on being creative in re-designing roles to serve the public better.

Vital to Keppel O&M's success are the strong partnerships with its stakeholders and customers, synergies from collaborations between its business units, culture of innovation and productivity embraced by its people, and efforts to train and retain high-performing employees.

Permanent Secretary of the Ministry of Finance, Mr Peter Ong shared in his welcome remarks his recent visit to Keppel FELS for the naming of the offshore drilling rig ENSCO 8506. He was impressed by the yard's capabilities and innovations and the many young engineers who were running the projects.

Exchange 2012 was a good example of strong private-public partnership and how cross-sharing of knowledge can lead to mutual benefits.

Safety rewards



Celebrating a safe partnership are (L-R) Mr Wong Kok Seng, MD, Keppel FELS; Mr Frederik Smidth, Vice President & Chief Technical Officer, Maersk Drilling; Mr Chow Yew Yuen, COO, Keppel O&M; and Mr Lars Ravn Hansen, Site Manager, Maersk Drilling



(From left) Lady Sponsor Ms Kartika, daughter of Pak Hadi, Mr Fabio Collavati, Technical Advisor of LogMarine Advisors, Mr Ramon M. Cornelia, VP (Operations) of KPMI, and Mr Alan E. Labarda, Project Manager of Keppel Batangas Shipyard

Projects at Keppel O&M's yards in Singapore and the Philippines are abuzz with activities. Through vigilance and good teamwork, the project teams have achieved good safety performances on these projects.

On 21 August, Maersk's first CJ70 jackup rig being built, B331, celebrated two million man-hours worked without lost time incident (LTI). For their efforts, the Keppel FELS project team was given a safety bonus of US\$30,000.

At the award ceremony, Mr Chow Yew Yuen, COO of Keppel O&M, said, "The achievement is testament to Keppel FELS's safety partnership developed over years of collaboration with Maersk Drilling. Together, we have built up a solid track record in executing projects safely and efficiently. Our experience in building four CJ50 rigs and now another three CJ70 rigs has enabled us to build these rigs in a systematic and safe way."

Earlier In July 2012, Seadrill and Asia Offshore Drilling (AOD) also marked their safety achievements on three of their rigs. On the AOD1, AODII and AODIII jackup rigs, more than 5 million safe manhours were clocked with the project team receiving a bonus of \$10,000 in recognition of their efforts.

Keppel FELS' project manager,
Marlin Khiew said, "We have a
very close working relationship
amongst the project teams
and with the owner, especially
when it comes to safety. We
push each other to be safe but
we also recognise the efforts
of our people. For example,
we hold an incentive award
ceremony quarterly as part of the
yard's effort to reward contractors
that have performed well in safety
on each project."

Over in the Philippines, Keppel Batangas Shipyard was awarded a PhP200,000 (\$6,000) bonus for good safety performances on two newbuild crane barge projects by its Indonesian customer, PT Pelayaran Kartika Samudra Adijaya (KSA).

Pak Hadi, Owner of KSA, said, "I am glad to present Keppel Batangas Shipyard with this well-deserved safety bonus. The yard has been working closely with our project management team from LogMarine Advisors to ensure that the two newbuild projects make safe and steady progress."

The bonus was presented at the naming ceremony for the two barges – F/C Ratu Giok 2 and F/C Ratu Giok 3 – on 9 July 2012. The vessels were named by the Lady Sponsor Ms Kartika, daughter of Pak Hadi.

Raising safety benchmarks



As a testament to its safety efforts, Keppel O&M received 29 safety awards at WSH Awards 2012

As a testament to its safety efforts, Keppel O&M received 29 safety awards from Singapore's Workplace Safety and Health (WSH) Council and Ministry of Manpower (MOM) at WSH Awards 2012.

Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M, said, "At Keppel, we emphasise that safety is everyone's business. We ensure that workplace safety and health messages percolate throughout the entire organisation. We have various platforms that facilitate the sharing of safety experiences and lessons, promote safety innovation as well as conduct safety training and leadership courses across Keppel Group's business units.

"We are very encouraged by the recognition we have received for our sustained safety efforts. Beyond recognition from the

Firm handle on safety

Welding a handrail is far from a straightforward job. The welder must manage multiple rolling cylinders while firing blowtorch which reach temperatures of over 2,000°C!

In addition, the welder may need to climb onto workbenches and get into awkward positions to reach the welding spots. As such, a handrail welder might develop poor posture, risk falling from height, and be exposed to fire hazards.

To mitigate the challenges of welding handrails, Keppel Sea Scan has developed the Handrail Welder's Friend - a rack which secures cylinders together and facilitates welding from more comfortable positions.

This useful equipment was awarded the WSH Innovation Award from the WSH Council and the Ministry of Manpower (MOM).



The Handrail Welder's Friend designed by Keppel Seascan won the WSH Innovation award from the WSH Council and MOM

government and the industry, our greatest reward is seeing everyone return home safely at the end of each workday."

Of the awards received by Keppel O&M, 25 were for achieving zero incidents on its newbuild and conversion projects, two went to supervisors Mohammed Alamgir Hossain Md Anower Hossain from Keppel Singmarine and Mohammed Nazrul Islam from Keppel FELS for their exemplary safety leadership, one went to Keppel Singmarine for its strong WSH performance and one was conferred to Prime Steelkit for its risk management capacity.

Held annually, WSH Awards recognise organisations and individuals for their safety efforts and performances.

Seventh successful delivery



Capping a great partnership with the delivery of Ensco 8506 are (L-R) Mr Ron Couet, Project Manager of Ensco, Mr Bob Issac, Senior Legal Council of Ensco, Mr Chow Yew Yuen, COO, Keppel O&M and Mr Terence Lum, Project Manager at Keppel FELS

Ensco 8506, the seventh and final rig in the ENSCO 8500 Series Ultra-Deepwater Semisubmersible Rig, was delivered on 30 July 2012. The rig is contracted to Anadarko for

work in the U.S. Gulf of Mexico starting in December.

Keppel FELS is currently constructing three ultra-premium

harsh environment jackup rigs for Ensco modeled after its proprietary KFELS Super A Class design.

Long-standing partnerships

As Keppel O&M celebrates 10 years of growth and excellence, a big part of its success is due to the strong partnerships and friendships built up with customers, associates, government officials and community leaders. To commemorate its 10th anniversary, this is a special series showcasing Keppel's long term relationships.



Mr Claus V. Hemmingsen, CEO of Maersk Drilling on a visit to Keppel FELS with Mr Choo Chiau Beng (left), Chairman of Keppel O&M and Mr Tong Chong Heong, CEO of Keppel O&M (right)

IRON SHARPENS IRON

Keppel O&M's strong ties with A.P. Moller-Maersk Group (Maersk) were forged in the 80s, when Keppel FELS undertook the successful repair of the Maersk Valiant jackup rig. Since then, Keppel's yards worldwide have gone on to design, build, convert and refurbish many more high-quality drilling rigs and vessels for Maersk.

Mr Tong Chong Heong, CEO of Keppel O&M, said, "We are proud to be Maersk's preferred partner for its fleet expansion plans. Our partnership of almost 30 years can be summed up as one where iron sharpens iron – we were always pushing the boundaries of each new project, to bring innovative and robust solutions to the market."

In 2001, Maersk ordered Keppel's prototype DSS™ 20 semi. This was the first semi to be built in the Caspian Sea, and the most technologically advanced unit to operate in that region. This order by Maersk also marked the commercialisation of the DSS™ design. Maersk has since ordered three other DSS™ series semisubmersible rigs.

Mr Claus V. Hemmingsen, CEO of Maersk Drilling and Member of the Executive Board of the A. P. Moller said at the naming ceremony of the third DSS™ 21 semi, Maersk Deliverer, "The delivery of Maersk Deliverer and her sister rigs bear evidence to the longstanding relationship and cooperation between us. Our offshore newbuilding cooperation dates back to 1993 and counts numerous jackups, semis and supply vessels. One of the main reasons for choosing Keppel was the skills and competencies of the Keppel yards and in particular of the workforce. Another was Keppel's track-record in delivering on time and on budget."

Keppel FELS has also delivered four CJ50 jackup rigs and is currently undertaking the construction of another three CJ70 jackup rigs for Maersk.

Over the years, Keppel O&M has also successfully completed ship conversion, repair and construction projects for Maersk. As the Danish company's preferred ship repair yard, Keppel Shipyard has serviced more than 200 Maersk Group's vessels over the last decade and converted two Floating Production Storage and Offloading vessels for Maersk.

DESIGNED FOR SUCCESS

Since first collaborating on the KFELS semisubmersible drilling tender (SSDT) design in the 90's, Keppel and Seadrill's success have grown in tandem with their partnership.

It is a partnership that has seen Keppel deliver eight KFELS B Class Jackup rigs and seven KFELS SSDTs to Seadrill, with another four rigs under construction, all of which are based on Keppel's proprietary designs. This is in addition to the first Jackup, West Epsilon, built for Seadrill in 1993.

Mr Tong Chong Heong, CEO of Keppel O&M said, "We at Keppel are very privileged indeed, to have been able to grow with Seadrill over the years, supporting our valued customer in expanding its premium fleet and market leadership. We are always keen to team up with trend-setting customers like Seadrill to develop innovative solutions for the offshore oil and gas industry."

Keppel has vindicated Seadrill's confidence in its designs and execution capabilities by delivering award-winning products safely, on time and within budget.

At the naming ceremony of the seventh SSDT delivered to Seadrill, West Jaya, Mr Alf C Thorkildsen, CEO of Seadrill said, "Our repeat order of yet another drilling unit at Keppel FELS is a testimony to the predictable delivery of rig production, both in quality and schedule and is certainly to be regarded as a sign of confidence, and a strong commitment to this excellent yard."

Besides Keppel FELS, Keppel AmFELS in the US has previously built five jackups for a Seadrill subsidiary, Scorpion Offshore, while Keppel Shipyard has delivered three Floating Storage and Regasification Units to Golar LNG, a subsidiary of Seadrill.



Reaffirming their strong partnership at the naming of West Jaya are Mr Alf C Thorkildsen, CEO of Seadrill, and Mr Tong Chong Heong, CEO of Keppel O&M

Brazilian bonanza with multiple contracts secured



Well suited for offshore Brazil, the DSS™ 38E semi design is an enhancement of the established DSS™ 38 semi design. When completed, the rigs will be chartered to Petrobras for 15 years for drilling activities in the pre-salt areas of Southeast Coast of Brazil

BrasFELS is the most established yard in Brazil and has a pro modules. Another project the yard is undertaking for MTOP

The buzz surrounding the opportunities in Brazil's significant oil and gas reserves reached new highs when Petrobras and Sete Brasil Participações S.A. (Sete Brasil) finally approved the contracts for the construction of drilling and production vessels.

An active participant in Brazil's oil and gas sector, Keppel O&M secured multiple contracts for its Brazilian shipyard, BrasFELS. This includes the contracts for the design of five semisubmersible

(semi) drilling rigs and the fabrication and integration of modules for three Floating **Production Storage and** Offloading vessels (FPSO).

FIVE ADDITIONAL DSS™ 38E **SEMIS**

Keppel O&M, through its subsidiary Fernvale, firmed up the contracts for the design and construction of five additional semi drilling rigs on 7 August 2012. Keppel O&M had announced in April 2012 that it had entered into

a Letter of Intent with Sete Brasil for these units.

The five semis will be built based on Keppel's proprietary DSS™ 38E design, which has enhanced capability and operability, making it well suited to meet the stringent requirements of the deepwater "Golden Triangle" region of Brazil, Africa and the Gulf of Mexico. The semis are scheduled for delivery in 4Q 2016, 3Q 2017, 2Q 2018, 4Q 2018, and 3Q 2019.



ven track record of offering a full range of offshore and marine solutions, including the fabrication and integration of topside S is the fabrication and integration of topside modules for the FPSO Cidade de Sao Paulo

Including these five units, Keppel will be building a total of six DSS™ 38E semis for Sete Brasil. In December 2011, Keppel O&M had secured its first DSS™ 38E semi contract from Sete Brasil.

Scheduled for delivery in 4Q 2015, this first semi celebrated its strike steel milestone on 13 July 2012 at Keppel's BrasFELS yard in Angra dos Reis.

When completed, the rigs will be chartered to Petrobras for 15 years

to carry out drilling activities in the pre-salt areas of Southeast Coast of Brazil. Three rigs will be operated by Queiroz Galvão Óleo e Gás SA, two by Petroserv SA and one by Odebrecht Óleo e Gás SA.

Sete Brasil's CEO, Mr Joao Carlos Ferraz, said, "We are pleased to ink the firm contracts with Keppel to design and build five additional semis for us at their established yard in Brazil. We and the drilling contractors are ready to work closely with Keppel on all six rigs, and I'm confident Keppel will deliver the quality rigs to us safely and on time."

Sete Brasil specialises in chartering drilling rigs and other assets for Brazil's pre-salt exploration.

Mr Tong Chong Heong, CEO, Keppel O&M, commented, "We are privileged to be given this significant opportunity to continue to play a key role in the

Continues on page 24...

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Representatives from Petrobras, Sete Brasil and Keppel FELS Brasil mark the strike steel milestone of the first of six DSS™ 38E semis on 13 July 2012 at Keppel's BrasFELS yard

development of Brazil's oil and gas industry. The preparation work on the semis is well underway, and we are ready to embark on their construction at our BrasFELS yard in Brazil.

"Looking ahead, our priority continues to be on the training and education of our current and additional workforce for these projects in Brazil as part of our productivity enhancement strategy," added Mr Tong.

Jointly developed by Keppel's Deepwater Technology Group and Marine Structure Consultants, the DSSTM 38E design is innovative and cost-effective.

The design is rated to drill to depths of 10,000 metres below the

rotary table in 3,000 metres water depth. Its operational displacement is approximately 45,000 tonnes. Each rig will have accommodation facilities to house a crew of up to 160 men.

STRONG EXECUTION IN FPSO CONVERSIONS

Keppel FELS Brasil further strengthened its track record in FPSO conversion when it secured contracts for the fabrication and integration of FPSO topside modules from the Petrobras-led consortiums, Guara BV and Tupi BV, and MODEC and Toyo Offshore Production Systems (MTOPS).

For Guara BV and Tupi BV, the contracts were secured on 10 August 2012 for the FPSOs P-66 and P-69. As part of the

agreement, Petrobras has an option for a similar contract to be exercised by 1Q 2014.

Mr Chow Yew Yuen, COO of Keppel O&M, said, "We are pleased to be able to support Petrobras in growing their fleet of FPSOs, providing local content to meet their requirements. Undertaking two similar projects will enable us to maximise our efficiencies and add value for our customer.

"Having delivered a number of FPSO conversions and topside integration projects with another two in progress, we are proud that our BrasFELS shipyard has established a track record of quality deliveries. Our recent firm contracts signed with Sete Brasil for five additional DSS™ 38E drilling semisubmersibles are a testament to the good standing of our BrasFELS shipyard."

When completed, P-66 will be deployed to the Guara field while P-69 will work in the Tupi field in offshore Brazil. Both FPSOs will each have a production capacity of 150,000 barrels of oil per day (bopd). BrasFELS' workscope for the two FPSOs includes the fabrication and integration of seven topside modules.

He added, "As the most established offshore yard in Latin America, we are continually upgrading our capabilities and have the capacity to take on more projects of different varieties. Our Near Market, Near Customer strategy has enabled us to better serve Petrobras. We look forward to continuing this win-win partnership and contribute to Brazil's E&P programme."

Earlier in the year, on 11 July, Keppel FELS Brasil secured a similar project from MTOPS for the FPSO Cidade de Mangaratiba MV24. MTOPS is a joint-venture company established in Singapore by Toyo Engineering Corporation (TOYO) and MODEC.

Scheduled to be completed by 2Q 2014, the FPSO will have a daily production capacity of 150,000 bopd and storage of 1,600,000 barrels of oil. It will be chartered to Tupi B.V. for 20 years and deployed at Lula-Iracema South Area in offshore Brazil.

Mr Chow Yew Yuen, said, "We would like to thank our repeat customer MTOPS for reaffirming their confidence in us. This is our second project with them and we are committed to deliver it safely, on time and within budget. The first project, the integration of topside modules for the FPSO Cidade de Sao Paulo is progressing well, and we look forward to support MTOPS as they grow their presence in Brazil."

Work is expected to commence at BrasFELS in 4Q 2012. The major work scope includes fabrication of the helideck, flare tower, risers, manifolds, waste heat recovery units, sulphate removal unit, water injection unit and integration.

Mr Shigero Usami, President of MODEC Singapore, added, "We are pleased to award this project to Keppel FELS Brasil as they have demonstrated their strong performance in the integration of the FPSO Cidade de Sao Paulo. We are confident that both vessels will be delivered to our highest satisfaction and be a success when deployed for our customers.

"As a leading FPSO operator, we are ideally positioned to support

Background on BrasFELS

ABOUT THE YARD

- Located in Angra dos Reis,
 Rio De Janeiro
- Established in 2000
- Current number of Employees – 7000

CURRENT PROJECTS

- Fabrication and integration of topsides for
 - FPSO Cidade De Paraty
 - FPSO Cidade De Sao Paulo
 - FPSO Cidade de Mangaratiba
 - FPSO P-66
 - FPSO P-69
- Upgrade of
 - Drillship Noble Roger Eason
- Construction of
 - P-61 Tension Leg WellheadPlatform
 - First of six DSS™ 38E semis for Sete Brasil

HISTORIC MILESTONES

 Constructed some of the world's largest floating production units, P-52, P-51 and P-56 for Petrobras

the growth of Brazil's oil and gas production. In partnering an established shipyard like BrasFELS, we help ensure that our customers get their FPSOs on time to meet their production targets."

Continues on page 24...

Keeping one step ahead

The new orders for Keppel O&M were a culmination of its efforts over many years. Keppel O&M's offshore yard in Brazil, BrasFELS, has been part of the group since 2000. Keppel O&M's COO, Chow Yew Yuen spoke with Upstream's Gareth Chetwyn on Keppel's track record and future plans in Brazil. OffshoreMarine shares highlights of this interview.



Mr Chow Yew Yuen, COO of Keppel O&M

Delivering six drilling semisubmersibles (semis) 10 months apart while fabricating and integrating topside modules for several FPSOs will be a challenge but one that Keppel's BrasFELS yard is well equipped for.

Mr Chow said, "The DSS™ 38E is a Keppel FELS design and the yard will draw on its parent group's experience of building similar rigs before. We know the designs, layout and systems and we will be using a lot of our fabrication, procurement and commissioning knowledge from Singapore as well as our synergies to help our yard in Brazil.

"We have also recently completed some upgrading works such as the extension of the length of our pier and the gantry crane track along one of our slipways so it can accommodate more vessels. We are constantly improving the yard and we will continue to invest more than \$100 million over the next two years. The next wave of Investment will achieve better cranage, more covered spaces for fabrication efficiency, new pipe and electrical shop facilities and improved training facilities."

Apart from developing the facilities, the yard has always focused on improving the overall productivity of the workforce through continuous training and development.

"Building up a competent and skilled workforce is key." Mr Chow said, "Our training programmes, upgraded pipe shops and fabrications facilities have raised standards to the point where for example, the welding quality is on par with that from any facility in the world."

BrasFELs has an in-house engineering team of 100 with a full fledged capacity for detailed engineering. Mr Chow adds, "Keppel has been hiring graduates under its international training programme for almost five years. We have spent a lot of time, effort and money on training and we think we have met with good success."

On working in Brazil, Mr Chow surmised, "We spent many years working with Petrobras on a number of projects and this has given us a strong understanding of the working environment. I think the way to operate in Brazil is to be flexible. The more flexible you are the better off the yard is when taking on some of these projects."

Though it has already secured a number of Brazilian projects, Keppel is striving for further wins.

"Looking at Petrobras' 2012-2016 business plan of investing US\$236.5 billion, of which 60% will be for exploration and production,

we believe drilling contractors are likely to ramp up orders for deepwater rigs", Mr Chow said.

"We are also optimistic about the growth of the repair, maintenance and upgrade business in Brazil. A lot of our regular customers are asking how we can further service them and that is one area that we will continue to focus on. While the newbuild programme is underway, drillers may look at deploying rigs

and vessels from their existing fleet to work in Brazil."

He added, "The FPSO is a concept of choice now for production in Brazil. There are a lot now, for example the eight Replicante FPSOs. Six have been given out but we still have an option for the fabrication and integration of one FPSO for Petrobras and believe there may be more FPSO projects in the pipeline. I think they will

need more than 30 FPSOs in the next five years.

"We also believe there will be a need for a lot more Offshore Support Vessels. Our new yard, Keppel Singmarine Brasil, in Navegantes, Santa Catarina will be able to meet this demand. We are already building two Platform Supply Vessels and six tugboats to Keppel's proprietary designs."



BrasFELS also regularly undertakes the repair, maintenance and upgrade of offshore vessels in Brazil. The yard is continually upgrading its facilities to increase capacity and improve productivity.

Vibrant eco-system

Keppel O&M's growth and success has been supported by the strong partnerships it has built up with its vendors and subcontractors, many of which have been with the company for more than 20 years. To commemorate Keppel O&M's 10th anniversary, this series highlights some of our long-term partners in our business eco-system.

"At Keppel, we see our vendors and subcontractors as partners in the business and an extension of our capabilities. This is a symbiotic relationship that we have and will continue to work harder together to meet the needs of the market."

Mr Tong Chong Heong CEO of Keppel O&M

QUALITY AND COMPATIBILITY

CMR (Far East), which specialises in Electrical Power Systems, **Automation System Integration** and the manufacture of low voltage switchboards and motor control centers, has been servicing Keppel Offshore & Marine since 1993.

The company has worked on a wide variety of projects ranging from floating crane vessels, jackup rigs, semisubmersibles rigs, tender barges, accommodation vessels, floating docks and floating production storage and offloading vessels.

Mr K H Choo, MD of CMR (Far East), said, "We have a win-win partnership with Keppel. They are our main customer and our services are readily available to them. As most of our key

personnel have been with the company for more than 15 years, we have extensive knowledge of the past projects at Keppel and vessel owners appreciate our partnership with Keppel as they know they can come back to us for documentation, drawing and service/troubleshooting support, even many years after project delivery.

"Our engineers have good knowledge of rig electrical system and our long term experience of working with Keppel enables us to support them seamlessly with drawings, equipment delivery or changes on site in their engineering, production and operations. As we are located near Keppel's yards, our services are readily available to them and our engineer can be in the yard in less than an hour's notice."

Paint and coating specialist Jotun first collaborated with Keppel FELS in setting up a shop priming plant in 1994. By assisting to set up the operation, procedures and routines, Jotun demonstrated its commitment and sincerity in growing the partnership with Keppel. Since then, Jotun has supported Keppel by providing competent and professional

coating guidance on a majority of the company's rigs and vessels.

Mr Sunny Gwee, Global Offshore Sales Director of Jotun, said, "We have worked hand in hand with Keppel over many years and helped to improve the efficiency of coatings and even come up with green initiatives like reducing waste and Volatile Organic Compounds. This has been done by providing high quality, technological advanced coatings and solutions. As a one-stop solutions provider for coatings, we will continue to support Keppel for many more years to come."

Jotun's support extends to customising many paint and corrosion training sessions for Keppel's in-house applicators, contractors, engineers and staff. With offices set up in every country where Keppel O&M has a yard, Jotun actively participates and supports Keppel O&M's activities as well as events such as naming ceremonies, milestones and special occasions.

INTEGRATED WORKFORCE

Subcontractors make up more than 70% of Keppel O&M's workforce, many of which have been with Keppel for more than 30 years and



Mr Ng Joo Kheong , GM of Sin Hong Thai, speaking at the third Keppel Subcontractor Executive Committee which deals with issues related to contractors including safety, training, courses and productivity



Mr Foo Tak Yi of Mectrade receiving the 30 years Long Term Partnership Award from Mr Tong Chong Heong, CEO of Keppel O&M, at Keppel FELS's Subcontractors Night in 2007

are considered resident contractors with offices in Keppel yards.

As part of Keppel O&M's integrated workforce, Keppel also helps to train their workers and ensure their sustainable growth through long term contracts. Regular dialogue sessions with subcontractors are also held to get feedback and brainstorm ideas to improve work processes and manage resources better.

Keppel FELS also has a subcontractor executive committee consisting of subcontractors from different trade sections which meet up monthly to discuss issues related to contractors including safety, training, courses and productivity.

With over 800 workers, Sin Hong Thai Engineering has supported Keppel since 1990 in the fabrication, assembly and erection of spudcans, drill floors, crane columns and pedestals, piping fabrication and installation, steel outfitting and heavy equipment installation among other things.

Mr David Tan, Director of Sin Hong Thai Engineering, noted, "Having undertaken more than 300 projects covering 57 vessels for Keppel since 2007, we are able to meet their requirements and provide efficient services and quality products through value-added engineering, quality control and a dedicated work force. We have benefitted from the type and amount of work from Keppel FELS and are a partner to them in improving work processes and safety, as well as participate in many other substantive programs."

The company is an active participant in innovation and safety programmes and won various awards including the Gold Award at the National innovation Quality Circles (iQC) assessment in 2010.

Resident contractor Mectrade Engineering has grown in tandem with Keppel since 1977, supporting the yard in fabrication, assembly and erection of major vessel components such as main hull blocks, cantilevers, drill floors, spud cans, jack-cases and other similar projects on numerous jackup rigs, semisubmersibles and accommodation vessels.

Mr Justin Foo, Project Engineer of Mectrade said, "It has been rewarding working with Keppel FELS throughout all these years. We are given opportunities to undertake first-of-its-kind projects and through these, gain new engineering experience. Mutual trust is also nurtured in the partnership through thick & thin. We look forward to be actively involved in Keppel FELS' future projects, pioneering new engineering technologies together and bringing Singapore's marine & offshore industry to the next level."

In line with Keppel's core values of safety and innovation, Mectrade also help organised and participated in Keppel FELS' HSE Excellence Promotion Campaign 2010 & 2011 and the iQC 2010.

Deepening Brazilian Connections



Singapore's Minister for Transport and Second Minister for Foreign Affairs, Mr Lui Tuck Yew (right) impressed with what he saw at Keppel's Brazil yard as he is shown around by Mr Tong Chong Heong (3rd from right), CEO of Keppel O&M and Mr Kwok Kai Choong (2nd from right), President & CEO of Keppel FELS Brasil

Keppel O&M has garnered praise from Singapore ministries for flying the Singapore flag high in Brazil.

The group is an active participant of Brazil's offshore and marine sector. It recently further deepen its ties with the country by collaborating with the National University of Singapore to conduct R&D in Brazil.

SINGAPORE MINISTER VISITS BRASFELS

On an official visit to Brazil to strengthen Singapore-Brazil relations and explore new areas of cooperation, Singapore's Minister for Transport and Second Minister for Foreign Affairs, Mr Lui Tuck Yew visited Keppel FELS Brasil's BrasFELS yard on 3rd August, 2012. Hosting the visit were Mr Tong Chong Heong, CEO of Keppel O&M and Mr Kwok Kai Choong President & CEO of Keppel FELS Brasil as well as other key management.

During the yard tour, they witnessed the results of the Singaporean-Brazilian style of operations – the systematic construction of modules for the FPSO Cidade de Paraty, the jumbolisation operation of the drillship Noble Roger Eason on a floating dock as well as the flare lifting operation on the FPSO Cidade de Sao Paulo using twin jib cranes designed by BrasFELS on the gantry crane.

The delegation also saw how the yard continually trained and upgraded the skills of its workers through the technical school and various workshops.

Having seen the innovative operations and spectacular

records of the yard, Minister Lui commented that it was "a most impressive achievement by BrasFELS over the course of the last decade. Together with Keppel's shipyards in Singapore, you have truly contributed a significant extent to Brazil's oil and gas sector".

Minister Lui was accompanied by a delegation from the Ministry of Transport, Ministry of Foreign Affairs, the Maritime and Port Authority of Singapore, Singapore Embassy in Brasilia and IE Singapore.

MEETING OF MINDS

In May 2012, the consortium $f(K)^N$, or fKN, comprising like-minded organisations Keppel O&M, Keppel O&M Technology Centre (KOMtech), FloaTEC and National University of Singapore (NUS), was formed to seek commercially viable solutions to meet the challenges of deepwater field developments worldwide, particularly in Brazil.

The consortium hopes to achieve this through collaborations with universities and research institutes in Brazil, as well as industry partners in the global offshore and marine industry to develop the relevant technologies and training opportunities.

As part of this effort, fKN reached out to Professor Antonio Fernandes and Professor Marta Tapia from the Federal University of Rio de Janeiro (UFRJ). The two professors visited Keppel O&M and NUS on



At the dinner hosted by NUS for the visiting Professors from the Federal University of Rio de Janeiro are (first row, L-R) Prof Choo Yoo Sang, NUS; Mr Charles Foo, Advisor, KOMtech; Mr Tong Chong Heong, CEO, Keppel O&M; Prof Marta Tapia, UFRJ; Prof Antonio Fernandes, UFRJ; Mr Edward Huang, FloaTEC, (Second row, L-R): Mr Tay Tong Earn, NUS; Mr Aziz Merchant, Executive Director, KOMtech (Deepwater Technology), DTG, Keppel FELS (Engineering); Mr Tung Meng Fai, EDB; Mr Michael Chia, MD, Technology, Keppel O&M; Prof Chow Yean Khow, NUS; Prof Chan Eng Soon, NUS; Mr Eric Namtvedt, FloaTEC; Mr Chow Yew Yuen, COO, Keppel O&M; Mr Cheong Hin Fatt, NUS; Mr Anis Hussain, GM, DTG; Mr Heng Chiang Gnee, SMI; Mr Toh Ah Cheong, MPA; Dr Basil Lui, KOMtech

10 August 2012 to have a better understanding of the research projects which Keppel and NUS are undertaking, and to discuss areas of possible collaboration.

Eager to kickstart its partnership with the two professors, NUS has offered Professor Fernandes a visiting professorship under the Keppel Chair Fund, while Professor Marta Tapia is being invited to spend a year in NUS in 2013.

When asked about the visit, Professor Fernandes said that he was impressed with Keppel O&M and how well organised the yards are, while Professor Tapia commented, "When industry starts to invest in research, it is sending a message that it is not just focusing on profits but also on promoting the country's progress.



Mr Michael Chia, MD (Technology), Keppel O&M, showing Professor Marta Tapia and Professor Antonio Fernandes from the Federal University of Rio de Janeiro the progress of construction of the P-61 Tension Leg Wellhead Platform at Keppel FELS' Pioneer Yard

The collaboration by the Federal University of Rio de Janeiro, NUS, Keppel, and FloaTEC reflects a very interesting exchange. And an exchange involving graduate and post-graduate students can only mean the intense growth of new knowledge."

Super design and construction



The KFELS Super A Class is a value proposition rig with superior performance compared to ultra high specification jackups of its class

More than 80% of completed, the new generation KFELS Super A Class jackup rig Discovery Triumph is on track to make its debut ahead of schedule in 2Q2013.

Being built by Keppel FELS for Discovery Offshore, work on the ultra high-specification jackup rig has achieved 3.3 million man-hours without lost-time incident (LTI) as at end-July 2012. It received the SHARP safety award for projects at Singapore's Workplace Safety and Health Awards 2012.

Following closely behind is sister rig, Discovery Reliance, which is nearing the half way point in its

construction having reached a safety milestone of 1.5 million manhours worked without LTI.

When delivered, the two harsh environment rigs will be amongst some of the world's most elite jackup drilling rigs. The KFELS Super A Class design brings together winning features of Keppel FELS' proven jackup rig designs to provide operators with a viable and cost-effective solution for harsh environments and cold climate areas.

Customised to meet the requirements of Discovery Offshore for high-specification jackups that can be safely deployed in most areas worldwide, the rigs will be capable of operating in water depths of 400 feet and drilling depths of 35,000 feet.

For greater operational safety, the KFELS Super A Class is equipped with the latest pinion overload detection, rack phase difference detection, and brake failure and overload protection devices, thus meeting the stringent Health, Safety and Environment (HSE) standards of the UK sector in the North Sea.

When compared with other rig designs of its class, the KFELS Super A Class provides higher variable load, better drilling capabilities, better cantilever load performance, accommodation complement and larger deck space.

ENHANCED FEATURES OF THE KFELS SUPER A CLASS:

- Designed for operations in the North Sea (UK sector)
- Able to operate in water depths up to 400 ft
- Equipped with high specification drilling equipments for drilling depths up to 35,000 ft
- 2 mil lbs hook load drilling system
- 150 men complement meeting ILO 92 standards or
- 120 men complement for North Sea compliance
- Enhanced leg design
- Extended cantilever reach and load chart
- Forward wrap around living quarters

Quest for a global rigbuilder



Mr Tong Chong Heong (left), CEO of Keppel O&M, explains Keppel's innovative approach to rigbuilding to CNN's business reporter Richard Ouest



Mr Wong Kok Seng (left), MD of Keppel FELS, and Richard Quest discuss the cutting-edge technologies behind drilling rigs

"Don't give me 10 reasons why something can't be done. Give me one reason why we can do it. It is from that impetus that we think out of the box and come up with ways to make it work. Innovation is really key to today's business."

Mr Tong Chong Heong, CEO of Keppel O&M, shared this with renowned business reporter, Richard Quest on Cable News Network's (CNN) World Business Today report.

Richard recently visited Keppel FELS to learn more about the operations of the world's leading rig builder. This was part of the television news channel's in-depth look at Singapore's economy and how a third of the nation's GDP comes from manufacturing.

Keppel O&M was featured as an example of how innovation and technology have helped Singapore to thrive in the global economy.

As Richard says, "This is not old fashion metal bashing. It is advanced engineering and mechanics using 3D imaging and advanced computer technology."

To Richard's question on how high-tech the industry is,

Mr Wong Kok Seng, MD of Keppel FELS, responded, "Our rigs have to operate in high seas with harsh environments and be like a factory that is able to drill precisely 30,000 feet below sea level. It is state-of-the-art."

The segment also showcased Keppel's efficient rigbuilding process, from design and engineering to the high-tech cutting of panels and the automated fabrication of pipes to the assembly of rigs at the drydock.

Innovative hydraulic jacking system



Overview of a vessel installed with the OTD hydraulic jacking system

Technologies to harness offshore wind energy will become increasingly important as European countries further embrace renewable energy sources.

European Wind Energy Association (EWEA) has set a target of 40 gigawatt (GW) installed by 2020 and 150 GW by 2030. To fulfill this target, the number of offshore wind farms under construction will increase. This in turn leads to a rise in demand for wind farm maintenance and installation vessels.

Today, wind farm installation vessels for shallow waters are usually equipped with tubular leg and hydraulic jacking systems.

In general, existing hydraulic jacking systems have limitations such as low jacking speeds and large jack cases. In addition, there are complexities and challenges in operating, installing and maintaining the systems.

The slow jacking speed of a hydraulic jacking system is due to the hull or legs being driven only by one set of cylinders as well as

having a discontinuous working cycle. The large and bulky jack case is a result of inefficient arrangement of cylinders.

Keppel Offshore & Marine Technology Centre (KOMtech) and Offshore Technology Development (OTD) are developing an enhanced hydraulic jacking system for multipurpose offshore wind installation vessels.

Comprising two sets of cylinders moving in opposite directions, this new system uses hydraulic power more efficiently and requires only

two intermissions for a typical continuous jacking cycle.

In addition, the cylinders have been arranged so that the size of the jack case can be reduced significantly. The overall compact form of this jacking system ensures that it provides more deck area for the storage of wind turbine parts as well as installation operations.

This innovative hydraulic jacking system is also safer than existing systems. Its locking units will secure the hull in emergency situations.

A scaled-down version of the system developed by KOMtech and OTD has been tested and the results have been encouraging. The jacking process has been smooth in both balanced and unbalanced load conditions.

With its extensive R&D resources as well as its engineering and construction capabilities, Keppel O&M is well-positioned to provide enhanced solutions not just for the offshore and marine sector, but also for the offshore wind turbine industry.



Testing of KOMtech and OTD's hydraulic jacking system prototype was conducted at Keppel FELS

Technical Specification

MODEL OTD H2000

Normal Jacking Capacity

Maximum Jacking Capacity

Maximum Holding Capacity

Jacking Speed

2,000 Ton per Leg

3,200 Ton per Leg

3,800 Ton per Leg

approx. 900 mm/min

MODEL OTD H3000

Normal Jacking Capacity

Maximum Jacking Capacity

Maximum Holding Capacity

Jacking Speed

3,000 Ton per Leg

4,800 Ton per Leg

5,700 Ton per Leg

approx. 900 mm/min

Can-Do! camaraderie



The Keppel O&M Alumni Dinner was held in honour of evergreen Keppelites for all their contributions

To honour alumni staff and to thank them for years of hard work and contributions, the Keppel O&M Alumni Dinner was held at the Concorde Hotel on 19 July 2012.

The soiree, a joyful reunion for Keppelites both present and evergreen, was themed 'Can-Do! Camaraderie', a nod to Keppel's unique brand of camaraderie, built on years of teamwork and a collective passion for delivering results safely, on time, and within budget.

Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M shared, "It is very apt that we have themed our party – the Can-Do! Camaraderie – for it is the Keppel spirit that continues to burn brightly in each of us that we care to be part of the Keppel O&M Alumni and through the Alumni, continue to engage meaningfully with the Keppel family."

The memorable evening was rich with local flavour, from the Peranakan dinner buffet spread to the entertaining musical performances put up by our own talents from Keppel O&M.

Keppelite, Mr Chung Chee Kit,

exhibited 15 of his paintings on the sights and landscapes surrounding the Keppel yards and generously donated the token sum of \$10,000 he received for five paintings to the Tsao Foundation for the elderly.

Going the distance

Age is just a number. Passionate veterans at Keppel O&M proved that with their energy and keenness to continue working even after crossing Singapore's retirement mark of 62 years of age this year.

Senior management joined them in celebrating this milestone in their careers at a luncheon at Raffles Country Club on 14 July 2012.

Mr Choo Chiau Beng, CEO of Keppel Corporation & Chairman of Keppel O&M, shared, "Most of you have been with Keppel O&M for many years. On behalf of Keppel O&M, I would like to thank all of you for embodying our core values, and for meeting the challenges we have faced over the years with the *Can-Do!* spirit.

"I am pleased that many of you are in good health and have opted to continue in your line of work or take on mentorship roles.

The younger generation of Keppelites will benefit greatly from your guidance."

Amongst those turning 62 this year are Mr Roger Leng, Yard

Manager (Cresent Yard) of Keppel FELS; Mr Tay Chye Heng, Commercial Manager at Keppel Shipyard; and Mr Poon Tai Lum, GM (Commercial/ Marketing) at Keppel Singmarine. The trio shared pictures and anecdotes of their time at Keppel O&M. Their honest and light-hearted presentations drew laughs and evoked nostalgia.

The veterans shared on the joys of work at Keppel and their hopes for its future.



"My more than 42 years with Keppel have been very challenging, exciting and rewarding, filled with plenty of learning opportunities. It has been a pleasure to work with a management team which values and appreciates its employees."

Mr Tay Chye Heng Commercial Manager, Keppel Shipyard



"It is very satisfying to watch the company grow and know that you have contributed in some small way. Over the years, I have seen many colleagues leave Keppel in search of greener pastures. Many eventually find their way back to Keppel – this shows that Keppel is a good company to work for."

Mr Poon Tai Lum GM (Commercial/ Marketing), Keppel Singmarine



"Keppel holds many fond memories for me since I started working for Keppel in 1971.
I am proud to be part of the Keppel family and I hope to help grow the next generation of Keppelites by teaching them the ropes."

Mr Othman Bin Alimat Chargehand, Hull Department, Keppel FELS

Inspiration at work

In recognition of the 22 model employees who received the Outstanding Keppelite Awards on 23 March 2012, OffshoreMarine features three employees who share their motivation at work.



Ivan is open to new ideas and relishes opportunities to venture into new frontiers



Wayne is always thinking of new ways to improve work processes at Keppel FELS



Ivan believes in nurturing people to further grow our talent pool

Ivan Lim, AGM (Operations) at Nakilat-Keppel Offshore & Marine (N-KOM), left Singapore in 2010 to be part of a greenfield shipyard project in Qatar. "Upholding the Keppel hallmark of exceptional project management and shipyard operations serve as my motivation to ensure that operation systems are set up properly and running smoothly during my time in Qatar." Working in a foreign country with different culture and working environment has pushed him to be adaptable. "I urge all Keppelites to seize opportunities to stretch themselves as these experiences will equip and embolden them to meet with further challenges."

Wayne Siek, Senior Project Superintendent at Keppel FELS is currently overseeing the construction of the world's biggest and most technically advance jackup, the GustoMsc CJ-70 jackup for Maersk Drilling. With his brand of passion, he was given additional roles such as the 24th ASEAN Council on Petroleum Games Country Coordinator for Singapore, Keppel Safety Assessor, and Keppel Games Chairman since 2009, to name a few. "Although it can be stressful and challenging at times, the experiences have enriched my perspectives in life. I always feel very proud when a rig is delivered to a satisfied client with zero incidents. I believe that the passion and drive to constantly challenge myself will determine my success."

Ivan Teo, Project Engineering Manager joined Keppel FELS in 2003 as a Keppel Group scholar. Having received support from the company through the scholarship, he too believes strongly in nurturing new people, building strong teams and inspiring them with the Keppel Can-Do! spirit. "We need to value and nurture our people, as a company's success comes from team effort." Leading by example, he has assumed several leadership roles to help foster bonds between Keppelites and has gone the extra mile to spearhead Keppel Volunteer projects and other initiatives.

Grooming leaders of tomorrow



Mr Choo Chiau Beng (right), CEO of Keppel Corporation shared valuable advice with Keppel Global Young Leaders

"The programme was intensive and immersive, covering a wide spectrum of leadership skills. What I enjoyed most was the interaction with coursemates from different business units and work functions across the globe. I learnt to appreciate the diversity of the Keppel Group, where collaboration between team members allow us to achieve more than the sum of what each of us could have achieved on our own."

Winston Cheng Assistant Project Manager (Projects), Keppel FELS

To engage our talent pool and groom the next generation of high-potential leaders, Keppel College held its annual Keppel Global Young Leaders Programme (GYLP) event in August 2012 at the Nanyang Technological University (NTU) in Singapore.

The GYLP is a strategic collaboration between Keppel

College and Nanyang Business School, NTU. Over 30 Keppelites from across the Group attended this recent instalment which involved a residential programme that delved into effective decisionmaking processes, problem-solving and creative-thinking techniques, as well as soft skills, such as communications and people management skills.

The participants, who were from Azerbaijan, Belgium, Brazil, China, the Netherlands, the Philippines, Singapore and USA, brainstormed ideas, examined the latest business models and concepts and also gained insights to the operations and driving forces of Keppel's business units in Singapore through site visits.

A Business Simulation Workshop was introduced to the programme line-up for the first time to provide a realistic platform to develop the business acumen of participants. Teams played the roles of company executives responsible for financial

results and other key business metrics and competed in a dynamic marketplace to achieve the best results.

Drawing on the collective knowledge of coursemates from across different work functions, GYLP participants applied their new knowledge to projects which were presented to Keppel senior management at the end of the course.

Over a lunchtime session with GLYP participants, Mr Choo Chiau Beng, CEO of Keppel Corporation, highlighted the importance of being resilient and having a winning attitude.

Explaining what it means to be mentally tough, Mr Choo cited the example of Olympian Michael Phelps, who was the golden boy going into the recent London Olympics. Phelps had lost in four earlier events, including his signature event, the 200m butterfly. True to his form as a peak performer, Phelps put his losses behind him to emerge even stronger than before and clinched the gold in the anchor leg of the 4 x 200m freestyle relay.

To succeed, Keppelites need to take on challenges with staunch resilience, resist the urge to give up in the face of failure, and maintain focus and determination in pursuit of our goals. Mr Choo also urged Keppelites to keep an open and positive mind to learning opportunities and to stay eager in exploring new frontiers.

Boosting vigilance

Keppel Housing regularly conducts emergency response exercises to prepare for potential threats to safety and security.

One of its recent exercises touched on the issue of public disorder. On 14 July 2012, Acacia Lodge created a mock scenario of residents being frustrated and turning rowdy as a result of their water supply being cut off. The Singapore Police Force and Security Officers, welfare officers and resident ambassadors of Acacia Lodge then worked together to calm the crowd.

Through this exercise demonstrates

the Singapore Police Force and Keppel Housing's security unit demonstrated that they are equipped with a concerted response to deal with public order incidents. Madam Halimah Yacob, Member of Parliament for Jurong Group Representation Constituency, was invited to witness this exercise. She was impressed by the collaboration between Keppel Housing and the authorities.

Mr Steven Lee, GM of Keppel Housing, shared, "Our ability to respond and recover from an unexpected disruption depends



Keppel Housing's joint emergency exercise with the Singapore Police Force help ensure that it is equipped to respond to public order incidents in a concerted manner

on how prepared we are for such emergencies. Through these scenario-based exercises, we familiarise ourselves with the precautions and procedures that we need to take should such eventualities occur."

to enrich the arts and culture

Keppel O&M had contributed

\$50,000 to the organising of

Jose M.C. da Costa (Master Ousado),

community in Singapore,

this four-day event.

Brazilian beats

The graceful and athletic performances of Capoeiristas delighted and awed the visitors of the 9th International Capoeira Festival held from 8 to 11 August 2012.

The Festival introduced the public to Capoeira – a Brazilian martial art-form which comprise elements of music and dance – through workshops and presentations. A keen supporter of efforts

> Regional Director for South East Asia of the International Capoeira Federation (FICA) and organiser of Capoeira Festiva, said, "We thank Keppel for their generous support. Enabling the public to better appreciate a beautiful art-form as well as Brazilian culture, this Festival contributes to a richer cultural fabric."



Capoeiristas delighted and awed the visitors of the 9th International Capoeira Festival

Sporting a winning spirit

The 10th run of Keppel Games got off to a rousing start on 9 July 2012. Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M, shared, "Sports and games have always had the ability to overcome barriers of

nationality, language and culture, to unite people. In the same way, Keppel Games will help to bring together Keppelites across different business units to forge new friendships and to strengthen old ones."

With three new events, tennis, sepak takraw and dragon boating, this season will stretch from July to November. After the Golf, Table Tennis, 9-Ball Pool and Cybergames events as well as the Flag Design Competition, Team Pacific – which includes Keppel Singmarine – is in the lead.

However, with many more games to go, there are plenty of opportunities for Keppelites to give their support to their team members, and for strong friendships to be forged.



Richard Goh (second from left), senior security commander at Keppel FELS, has been a staunch supporter of the games since its inception in 2003

Walk for a good cause

Spirits were high and cheers were loud at Marina Bay Sands on 26 August 2012 as 47 employees from Keppel O&M shed their boiler suits for their sports gear in the Community Chest's (ComChest) Heartstrings Walk.

A total of \$1.3 million was raised in this charity event. The proceeds will benefit 300,000 people, including children with special needs, youths-at-risk, persons with disabilities, lonely and frail elderly and families-in-need. Keppel O&M had donated \$50,000 to ComChest on this occasion.

The four-kilometre charity walk was flagged off by Deputy Prime

Minister and Minister for Home Affairs Mr Teo Chee Hean which had 6,000 participants.

Besides a charity walk, the Heartstrings Walk comprised

a vertical marathon event.
Keppel O&M won the fastest team award in this competition as they conquered 57 storeys of Sands SkyPark with a combined time of 24 mins and 26 seconds.



Keppel O&M emerged champion in vertical marathon competition as they conquered 57 storeys of Sands SkyPark with a combined time of 24 mins and 26 seconds

Singapore spirit on show



50 Keppelites represented Keppel at Singapore's National Day Parade

Keppel Group showed its support for Singapore by sponsoring and participating in the National Day Parade (NDP) 2012 at The Float @ Marina Bay.

50 Keppelites represented the Group in the march-past, a traditional staple of the NDP. The contingent, comprising Keppelites of different races and age groups, and from across Keppel's business units, reflects the diversity of Singapore, a melting pot of different ethnicities and religions, united as one and bonded through common ideals and an indomitable spirit.

Ms Yvonne Ng, a busy working mum with two young children, has been part of the Keppel contingent for NDP for two years in a row.

Enduring values for success

At the Keppel O&M National Day Observance Ceremony, quest-ofhonour Madam Halimah Yacob, Minister of State of the Ministry of Community Development, Youth and Sports, joined Keppelites as they celebrated the nation's achievements.

Madam Halimah expressed that this was also an occasion to honour the men and women whose hard work have helped built this nation. Her thoughts were shared by Mr Choo Chiau Beng, CEO of Keppel Corporation and Chairman of Keppel O&M.

Mr Choo noted, "It is apt for Keppel O&M to recognise the contributions of 115 long-serving employees at this ceremony. I would like to thank all of you for your hard work through the years."

We should also prepare ourselves to take on future challenges, Mr Choo urged. He stated that we must continue to remain vigilant and prioritise safety to protect our people, environment and operations. In addition, we must continue to improve productivity and innovate to stay competitive

and relevant in the industries we operate.

Harmony between the Singapore government, unions and companies is one of the key factors behind the nation's success. For Keppel O&M, good communication and strong trust between government bodies, the management and unions have resulted in a cohesive work environment.

"I'm really passionate about it! It is an excellent opportunity to get to know fellow Keppelites from the other business units", shared the cheerful young mum, who is a Commercial Executive at Keppel FELS. As liason officer for the Keppel contingent, she never missed a single training session, which occurred every Saturday for a period of 4 months beginning in April.

Her story caught the interest of Mother & Baby magazine and Yvonne was interviewed for its National Day special on working mothers. She elaborated, "My children know why I do this and are excited to see me marching with the Keppel flag on National Day. I always tell them that because Singapore is a small country and we have limited natural resources, our people are the most important."



Yvonne (centre) in her Keppel contingent uniform, with her children, five-year-old Ashera (left) and three-year-old Ashton

High sails in the North Sea

On 17 July 2012, Keppel Verolme took the opportunity to sail on the Keppel-sponsored clipper yacht and invited customers and business associates like Saipem and the Royal Dutch Navy to join their management team.

The Clipper Round the World Yacht Race fleet was berthed in the former Navy wharf 'Willemsoord'in the historical heart of Den Helder during its stopover in the Netherlands. Coincidentally, Keppel Verolme had just completed maintenance work on Hr. Ms. Johan de Witt of the Royal Dutch Navy, which had returned to its home base in Den Helder where the clipper yachts were berthed.

Welcomed by the clipper crew and Keppel's very own crew member, Karel van de Gehuchte, the guests were also invited to help raise



Keppel Verolme and their guests from Saipem and the Royal Dutch Navy enjoyed an afternoon of manning the clipper yacht

and tack the sails as well as steer the yacht.

Ruud van der Stroom, GM (Commercial) of Keppel Verolme, said, "While we repair many huge and complicated ships, it is refreshing to have the opportunity to sail on a yacht and experience the beautiful north sea up close. It was very enjoyable and we are glad to be able to share this with our friends and customers."

Preserving an engineering feat



Keppel FELS Brasil's BrasFELS yard in Angra dos Reis lifting the last remaining Stork Hotlo diesel engine from the drillship Noble Roger Eason in support of a preservation project by a **Dutch foundation**

Keppel FELS Brasil's BrasFELS yard in Angra dos Reis has supported the Save our Stork (SOS) HOTLO Foundation in the Netherlands, which sought to recover and restore the only operational Stork Hotlo diesel motor left in

the world. The rare engine was installed aboard the drillship Noble Roger Eason, which is currently being upgraded at the yard.

The SOS-HOTLO Foundation was set up in 2008 by volunteers who wished to retire the last operational Stork Hotlo and return it to its birthplace in the Dutch region of Twente. The engine will be displayed in the City of Hengelo, where the engine was first assembled in 1962.

On 19 August 2012, BrasFELS successfully lifted the Stork Hotlo from the drillship. The engine will be kept in storage at the yard while the Foundation arranges for its transport back to the Netherlands on a heavy lift carrier.

"The tremendous support from Noble Drilling, the Noble representatives in Brazil, the management and employees of the BrasFELS shipyard in Angra dos Reis, and the Port of Rotterdam have together delivered an enormous impetus towards the ultimate success of this Twente project," commented the Board of Directors of the SOS-HOTLO Foundation.

Mr Kwok Kai Choong, President and CEO of Keppel FELS Brasil, said, "BrasFELS is glad to work with our customer Noble Drilling and our sister yard, Keppel Verolme to support this meaningful project. The Stork Hotlo engine represents an important part of the industrial development of the Netherlands, and the project serves to remind and encourage the younger generation to continue to create and innovate, which is well aligned with Keppel's core values."

Supporting relief efforts

The Philippine authorities and non-government agencies have been rushing to provide aid to some two million people affected by torrential rains and widespread floods which hit the Philippines in August. Through its subsidiaries in the country, the Keppel Group has lent a hand to ongoing relief efforts.

Keppel Philippines Marine donated groceries and relief goods worth about PhP 100,000 to the

Philippine Red Cross. Meanwhile, Keppel Subic Shipyard contributed rice, wheel chairs, quad chairs and other relief goods totaling more than PhP 100,000 to the relief operations led by the Governor of the Province of Zambales and the Mayor of the Municipality of Subic, Province of Zambales.

"We appreciate Keppel's prompt response to our call for support for our relief operations, which brings vital assistance to families

impacted by heavy rains and floods," said Subic Mayor Jay Khonghun.

Mr Mok Kim Whang, President of Keppel Philippines Marine and President of Keppel Subic Shipyard, said, "Our thoughts are with those whose lives are affected by the rain and floods. We hope that our contributions of food items and other relief supplies will help see them through these difficult times."

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Remembering a Keppel stalwart



The late Mr Nelson Yeo, who was MD (Marine) of Keppel O&M, and MD of Keppel Shipyard, contributed greatly to the growth of Keppel O&M and the industry

Keppel Group has lost a dedicated and core member of its family.

Mr Nelson Yeo, MD (Marine) of Keppel O&M, and MD of Keppel Shipyard passed away from a brain hemorrhage on 4 September 2012 while on a business trip in London. A stalwart of the industry, Nelson was known for his integrity, humility, courage and vision. He contributed greatly to the company and industry.

Mr Tong Chong Heong, CEO, Keppel O&M mourned the loss of a Keppel son saying, "All of us at Keppel O&M are greatly saddened by the sudden passing of Nelson. This year marks the 30th year since he joined Keppel. From a shiprepair management trainee at Keppel Shipyard, he has worked his way up to his current position as MD. Truly exemplifying the Keppel Can-Do! spirit, Nelson has always relished the challenges of complex work assignments and overseas postings.

"With his strong leadership skills, commitment and dedication, Nelson has contributed significantly to establishing Keppel Shipyard as a leader today in the conversion and upgrading of a variety of floating production vessels and a trusted name in ship repair. His untimely demise is indeed a great loss for all of us at Keppel. On behalf of the Keppel Group, I would like to convey our deepest condolences to his wife Siew Hua, his two children and his family."

Nelson, 55, began his career with Keppel Shipyard in 1982 as a Management Trainee. He was subsequently appointed as Shiprepair Manager in 1983, **Business Development Manager of** Keppel (UK) in 1988, GM of Wing Yong Engineering & Services in 1989, Yard Manager of Pioneer Yard in 1993 and President/GM of Subic Shipyard and Engineering in the Philippines in 1994. Upon returning from the Philippines, Nelson was appointed as ED of Keppel Shipyard in March 1996, an appointment he has held till July 2009 when he assumed his role as MD (Marine) of Keppel O&M and MD of Keppel Shipyard.

Nelson was also the Chairman of Keppel Philippines Marine, Keppel Subic Shipyard, Keppel Batangas Shipyard, Keppel Smit Towage, Maju Maritime, Keppel Singmarine and DPS Bristol (Holdings). He served as a member of the Workplace Safety and Health (WSH) Council's Marine Industries Committee, Ministry of Manpower; AIDS Business Alliance, Ministry of Health; and was also a member of the American Bureau of Shipping; South East Asia Advisory/Technical Committee in Lloyd's Register and the Singapore Technical Committee in Nippon Kaiji Kyokai.

In his career with Keppel, Nelson has received various commendations for his good work beyond the company. In 1996, he was conferred the title of The Adopted Son of the Municipality of Castillejos and separately, of the Municipality of Subic, Province of Zambales, the Philippines, for his invaluable and relentless support as partner in the socio-economic development of the Municipalities. In 2002, Nelson received a Certificate of Commendation from the Ministry of Manpower, Occupational Safety & Health, for his meritorious service and significant contribution to the promotion of Occupational Safety and Health in Singapore. In 2003, the National Trades Union Congress conferred the Medal of Commendation Award to him on May Day. (Refer to page 10 for a tribute to Nelson)

In Nelson's passing, Mr Chor How Jat, ED of Keppel Shipyard, has assumed the position of Acting MD, and will oversee the management of Keppel Shipyard's businesses and operations.