

OFFSHORE MARINE

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AWARD WINNING DESIGN

**Execution
excellence**



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At the second Keppel Offshore & Marine (Keppel O&M) Innovation Awards held on 3 October 2014, the group recognised the spirit of innovation behind ideas and solutions which have put Keppel O&M at the forefront of the industry.

A total of 25 awards were given out to winning teams, with top awards of Gold, Silver and Bronze. The photo above shows the team behind the design for the KFELS N Class and KFELS N Plus jackups, who received one of four Gold awards from Mr Loh Chin Hua, CEO of Keppel Corporation and Chairman of Keppel O&M, and Mr Chow Yew Yuen, CEO of Keppel O&M.

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Cover image: The derrick being installed on the first drilling semisubmersible, a DSS™38E, being built by Keppel Offshore & Marine at its yard in Angra dos Reis, Brazil, for Sete Brasil.

Fifth jackup for Qatar



(From left to right) Mr Fahad Al-Ahbab, Commercial Manager of GDI; Mr Ibrahim Al-Othman, CEO of GDI; Mr Wong Kok Seng, MD (Offshore), Keppel O&M and MD, Keppel FELS; and Mr Chris Ong, ED (Commercial), Keppel FELS at signing ceremony to mark GDI's order of its fifth KFELS B Class jackup rig

Keppel FELS has secured a contract from Gulf Drilling International Ltd. (q.s.c.) (GDI) of Qatar to build a repeat high-specification KFELS B Class jackup rig. As part of the contract which was signed on 16 September 2014, GDI has options for two more KFELS B Class rigs for deliveries in 2017.

On the new jackup, to be named Halul, Keppel FELS has already begun preparations for its scheduled delivery in 1Q 2016 during the course of discussions with GDI. Upon delivery, Halul will be chartered to Qatar Petroleum for five years.

Halul is GDI's fifth KFELS B Class jackup rig ordered from Keppel. The fourth rig, Dukhan, was recently delivered in August 2014. Les Hat, a similar jackup, was delivered in 2013 and has been successfully operating for GDI in the Middle East, following in the footsteps of sister rigs, AL Khor and AL Zubarah.

Mr Wong Kok Seng, MD (Offshore), Keppel Offshore &

Marine and MD, Keppel FELS, said, "We are pleased to have been chosen by GDI to build another benchmark jackup rig for them. The KFELS B Class has established itself as a reliable high specification jackup rig for the Middle East with more than 10 such rigs successfully operating there.

"Our strong partnership has been built on a number of successful projects delivered to them over the years and we look forward to continue supporting GDI as they grow in the Middle East."

Customised to GDI's requirements, the new jackup rig will be designed to operate in the higher ambient temperature of the Middle East. The KFELS B Class is equipped with larger spud cans for reduced bearing pressure and expands its operational coverage in more places, especially in sea beds where soft soil is predominant.

The rig can drill wells through 30,000 feet with a cantilever that can skid out 70 feet from the edge of the hull to drill wells. It

features offline stand building capabilities and 7,500 pounds per square inch (psi) mud pumps, with accommodation for 150 persons.

Mr Ibrahim J. Al Othman, CEO of GDI, said, "GDI is pleased to be signing a contract with Keppel FELS once again for this new requirement. We have built a solid relationship with Keppel FELS, who have a reputation for reliability and dependability. The majority of our rigs are of the newer, high-spec variety that have been customised to meet the needs of our clients. We make it a point to work closely with our clients in order to satisfy their requirements in a cost effective manner."

In addition to the jackup rigs Keppel has built for GDI, Nakilat-Keppel O&M, Keppel's joint venture shipyard in Qatar, is currently constructing a self-propelled and self-elevating liftboat customised for GDI. The yard also has a six-year repair and maintenance contract for GDI's fleet of jackup rigs operating in the Middle East.

Keppel Shipyard and Keppel Nantong secure contracts from repeat customers

Keppel Shipyard and Keppel Nantong Shipyard (Keppel Nantong) have secured contracts from repeat customers.

Keppel Shipyard's contract is for the conversion of a Floating Production Storage and Offloading (FPSO) vessel for Armada Cabaca, a wholly owned subsidiary of Bumi Armada Berhad (Bumi Armada) while Keppel Nantong's contract is to construct a submersible barge for Smit Shipping Singapore (Smit Shipping), a wholly-owned subsidiary of Royal Boskalis Westminster Group.

Mr Michael Chia, MD (Marine & Technology), Keppel Offshore & Marine, said, "The award of these contracts from Bumi Armada and Smit Shipping affirms the confidence that repeat customers have in the quality of our products and the timeliness which we deliver with. Such high standards in safety, customer service, and operational excellence can be found across our global yards.

"In working with these customers who have shown great faith and support in us, we will draw from our working experiences in previous and ongoing projects to continuously improve our performance and provide value-added services."

Keppel Shipyard has commenced work on the FPSO conversion for Bumi Armada, which is scheduled to complete in 2Q 2016. The yard's work scope for this project includes refurbishment and life extension works, upgrading of living quarters to accommodate 100 personnel, installation and integration of an external turret mooring system and topside process modules.

The FPSO, which will have a storage capacity of 1,700,000

barrels, will be able to handle up to 80,000 barrels of oil per day (bopd), 120,000 barrels per day (bpd) of water injection, and 120 million standard cubic feet per day (MMscfd) of gas handling. Upon completion, the FPSO will be producing for the Angola Block 15/06 East Hub Project that is located 350 km northwest of Luanda, Angola.

Over in China, work has also commenced for the barge that Keppel Nantong is building for Smit Shipping. The new barge, Giant 7, will be the third such unit to be delivered by Keppel to the marine services company. Giant 7 will join the first two units, Giant 5 and Giant 6, which are still undergoing construction, to be deployed in the Wheatstone project, 12 km west of Onslow off the Pilbara coast of Western Australia.

Giant 7 is slated to be completed in 2H 2015, while Giant 5 and 6 are on track for completion in end 2014 and early 2015 respectively.



The contract for the conversion of a FPSO vessel was awarded by Armada Cabaca, a subsidiary of Keppel's long time customer, Bumi Armada. On 11 October 2014, Keppel Shipyard celebrated the 11th successful collaboration with Bumi Armada with the sailaway ceremony of FPSO Armada Sterling II

Sterling success



Management from Keppel Offshore & Marine, Keppel Shipyard and Bumi Armada celebrated the near-completion of FPSO Armada Sterling II on 11 October 2014, together with Bumi Armada's joint venture partner Shapoorji Pallonji and Armada Sterling II's charterer ONGC

Keppel Shipyard and long standing customer Bumi Armada Berhad (Bumi Armada), celebrated their growing partnership during the sail-away ceremony of the Floating Production Storage and Offloading (FPSO) vessel, Armada Sterling II, on 11 October 2014.

The conversion project executed at Keppel Shipyard achieved over three million safe man-hours without lost-time incidents. The FPSO is on track for an on-time and on-budget delivery.

FPSO Armada Sterling II follows the footsteps of FPSO Armada Sterling I, also converted by Keppel Shipyard, and will support the production activities of Oil and Natural Gas Corporation (ONGC) in

the offshore oil fields to the west of Mumbai, India.

Keppel Shipyard's work scope for Armada Sterling II includes refurbishment and life extension works, upgrading of living quarters to accommodate 70 personnel, fabrication and installation of an internal turret mooring system as well as the installation and integration of topside process modules.

Armada Sterling II is the 11th successful collaboration between Keppel Shipyard and Bumi Armada since the 1990s. Keppel Shipyard is currently working for Bumi Armada on the conversion of two other FPSOs – one of the vessels will be deployed in the Kraken

Field in the North Sea, while the other is earmarked to operate in the Angola Block 15/06 East Hub Project in offshore Angola.

For these two new projects, the yard's work scope includes refurbishment and life extension works, upgrading of living quarters, installation and integration of turret mooring systems, and installation and integration of topside process modules.

The FPSO for the Kraken Field is scheduled for delivery in 3Q 2015, while the FPSO for Angola Block 15/06 is scheduled for delivery in 2Q 2016.

Steady progress



Senior management and project teams from N-KOM, GDI and ABS celebrated the keel laying milestone of liftboat Al Safliya at the N-KOM shipyard in Qatar



The keel laying of UMW Naga 8 was witnessed by management from UMW and Keppel O&M including En. Noor Azlan Adnan (first from right), Head of Drilling, UMW; and Mr Chow Yew Yuen (second from right), CEO of Keppel O&M

Reputed for execution excellence, Keppel Offshore & Marine (Keppel O&M) yards celebrated a number of project milestones recently.

FIRST LIFTBOAT FORAY

Nakilat-Keppel Offshore & Marine (N-KOM), Keppel O&M's joint venture yard in Qatar, achieved a key milestone for its first liftboat newbuild project, Al Safliya, when it celebrated the project's keel laying on 2 September 2014 at the Erhama Bin Jaber Al Jalahma shipyard in Ras Laffan.

The liftboat Al Safliya marks N-KOM's first foray into the offshore jackup newbuild market, and the first such project to be undertaken in Qatar. When completed in 2015, the liftboat will add to the growing offshore fleet of jackup rigs of Gulf Drilling International Ltd. (q.s.c.) (GDI).

Mr Abu Bakar Mohd Nor, CEO of N-KOM, shared, "Previously, we completed more than 10 jackup rig repair and conversion projects for GDI. Having made a name for ourselves in the repair market,

our next strategy is to capture the regional newbuild and offshore market by leveraging the expertise of both Nakilat and Keppel O&M to provide high-quality and value-added offshore solutions."

PROGRESS OF RIGS ON ORDER

Keppel FELS' repeat customer, Malaysian company UMW, marked the progress of its third jackup rig from Keppel FELS with a keel laying ceremony on 1 September 2014. To be named UMW Naga 8, the high specification KFELS B Class rig is scheduled for delivery in 3Q 2015.

Meanwhile, the fourth KFELS B Class jackup for Saudi Arabia's Arabian Drilling Company, AD70, had its keel laying ceremony on 3 September 2014. On track for completion in 4Q 2015, work on AD70 benefits from the strong partnership between the

companies, built upon the recent successful deliveries of similar rigs, AD50 and AD60, in 2013.

Three rigs being built for Mexican customers also marked their keel laying ceremonies in September. Grupo R's CANTARELL IV (B357)

and PARAISO I (B360) held theirs on 15 September, while Parden Holding's PARAISO II (B361) celebrated theirs on 23 September 2014. The concurrent construction of six rigs for Mexico has enabled the yard to leverage shared resources for maximum efficiency.



Keppel FELS, together with the project teams from Grupo R (left photo) and Parden Holdings (right photo) celebrating the keel laying milestones of the jackup rigs CANTARELL IV (left), PARAISO I and PARAISO II (right)

700-tonne goliath inaugurated

Installed in June and commissioned in August 2014, the new 700-tonne goliath gantry crane in Keppel FELS was officially inaugurated on 28 October and will significantly enhance the operations of the yard.

As part of the inauguration, eight religious leaders from the Inter-religious Organisation of Singapore were on hand to conduct a traditional blessing ceremony.

The 700-tonne crane adds to the yard's existing 500-tonne gantry crane and covers the fabrication and painting areas all the way to

the drydock. It will enable the yard to construct the modules of rigs in larger blocks which can then be lifted by the new crane from the

fabrication area to the drydock for assembly. This will expedite the rig building process and improve cost-efficiencies.



Senior management from Keppel FELS led by Mr Wong Fook Seng, ED (Process Excellence and Planning), Mr Mohamed Sahlan, ED (Operations) and yard managers, Mr Richard Tay and Mr Roy Lim together with religious leaders from the Inter-religious Organisation of Singapore inaugurating the 700-tonne goliath gantry crane

New lease of life

Keppel Verolme successfully completed the maintenance and refurbishment of the world's largest cruise ship 'Oasis of the Seas'.



Keppel Verolme giving a new lease of life to the world's largest cruise ship, 'Oasis of the Seas'

The world's largest and most innovative cruise ship, "Oasis of the Seas", has been given a new lease of life by Keppel Verolme after completing maintenance and refurbishment works at the yard on 14 October 2014.

Belonging to Royal Caribbean, the ship measures 362 metres in length, 60 metres in width and more than 70 metres high. It is the first ship to feature the cruise line's signature concept of themed areas, with the ship having seven distinctive areas – Central Park, Boardwalk, the Royal Promenade, the Pool and Sports Zone, Vitality at Sea Spa and Fitness Centre, Entertainment Place and Youth Zone.

The vessel arrived at Keppel Verolme on 30 September 2014 and underwent several modifications to its propulsion units, as well as four bow thruster

propellers. At the same time, Royal Caribbean used the drydock period for the refurbishment of the passengers' facilities such as the renewal of 27,000 m² of carpet. The underwater part of the vessel was cleaned and coated with a state-of-the-art paint system, which will help improve the vessel's operating as well as fuel efficiency.

Over 200 containers' worth of new furniture and materials for the refurbishment were brought on board and about 600 tonnes of waste materials were removed from the vessel.

The most challenging scope of work was the replacement of one of the ship's main engines. Keppel Verolme drydocked the "Oasis of the Seas" on a 3.3 metre high dock-block arrangement, which enabled the yard to go under the vessel to remove the engine. To

install the new engine, the yard had to cut a hole in the double bottom and lift a 130 tonne-engine onto the ship.

Mr Harold Linssen, MD of Keppel Verolme said, "Together with our partners, we executed a safe and excellent job in the shortest possible time period. We are proud to see "Oasis of the Seas" depart our yard and sail the seas again in her full glory. This is a continuation of our strong partnership with Royal Caribbean and the successful project once again demonstrates Keppel Verolme's quality execution capabilities. We look forward to more opportunities to partner with cruise ship owners and operators."

Keppel Verolme's previous project for Royal Caribbean was the successful lengthening of the cruise ship "Enchantment of the Seas" by 22 metres in 2005.

Sound progress in Brazil



BrasFELS is making good progress on its first drilling semi for Sete Brasil

With a strong track record in design, engineering and construction, Keppel Offshore & Marine (Keppel O&M) is making steady progress on the six DSS™ 38E drilling semisubmersibles (semis) rigs it is building for Sete Brasil.

TOPPING OFF

Keppel O&M's first drilling semi for Sete Brasil is more than 75%



The lower hull of the second drilling semi for Sete Brasil is due to arrive at BrasFELS in November 2014

complete. BrasFELS – in Angra dos Reis, Rio de Janeiro – has integrated the upper hull blocks with the lower hull, and started installation of topside components. The derrick has also been installed.

The first unit is on track for completion in the last quarter of 2015.

SAILING IN

Meanwhile, the lower hull of the second drilling semi unit has left Keppel FELS in Singapore for Brazil for integration with the upper hull blocks which are being fabricated at BrasFELS. The lower hull is

expected to arrive at BrasFELS in November 2014.

The second unit is more than 40% completed.

STRIKING START

As for the third drilling semi unit, it has reached almost 20% completion.

On 3 September 2014, BrasFELS, together with Petrobras, Sete Brasil, Queiroz Galvão Óleo e Gás, and the American Bureau of Shipping celebrated the strike steel ceremony for this third unit.



Together with its customers and partners, BrasFELS celebrated the strike steel ceremony for its third drilling semi on 3 September 2014

Synergy in solutions

The synergy of Keppel Offshore & Marine's global network of yards has enabled the group to provide comprehensive solutions to its long-standing customers like EnSCO.

RIGGED UP FOR NORTH SEA

EnSCO's harsh environment jackup rigs, ENSCO 121 and ENSCO 122, were first completed in Singapore by Keppel FELS before proceeding to Keppel Verolme in the Netherlands for mobilisation works and final acceptance tests in preparation for deployment in the North Sea.

The latest rig, ENSCO 122, arrived in the Rotterdam yard on 1 September 2014, following the early delivery by Keppel FELS in July 2014. Work at the Rotterdam yard included the modification and installation of various systems, including the installation of the Conductor Tensioner Platform and

its extensions. Keppel Verolme's close teamwork with the EnSCO engineering site team enabled them to perform the 272 metric tonne load test after just 24 days.

ENSCO 122 departed Keppel Verolme on 27 October 2014 to start its contract with Nederlandse Aardolie Maatschappij (NAM), a Dutch exploration and production company jointly owned by Shell and ExxonMobil, for drilling in the Dutch and UK sectors of the North Sea from 4Q 2014 to 4Q 2016.

An enhanced version of the KFELS Super A Class design, ENSCO 122 is designed to drill to depths of 40,000 feet for the most demanding large multi-well platform programmes, ultra-deep gas programmes and ultra-long reach wells. Another similar rig, ENSCO 123, is currently under construction at Keppel FELS.

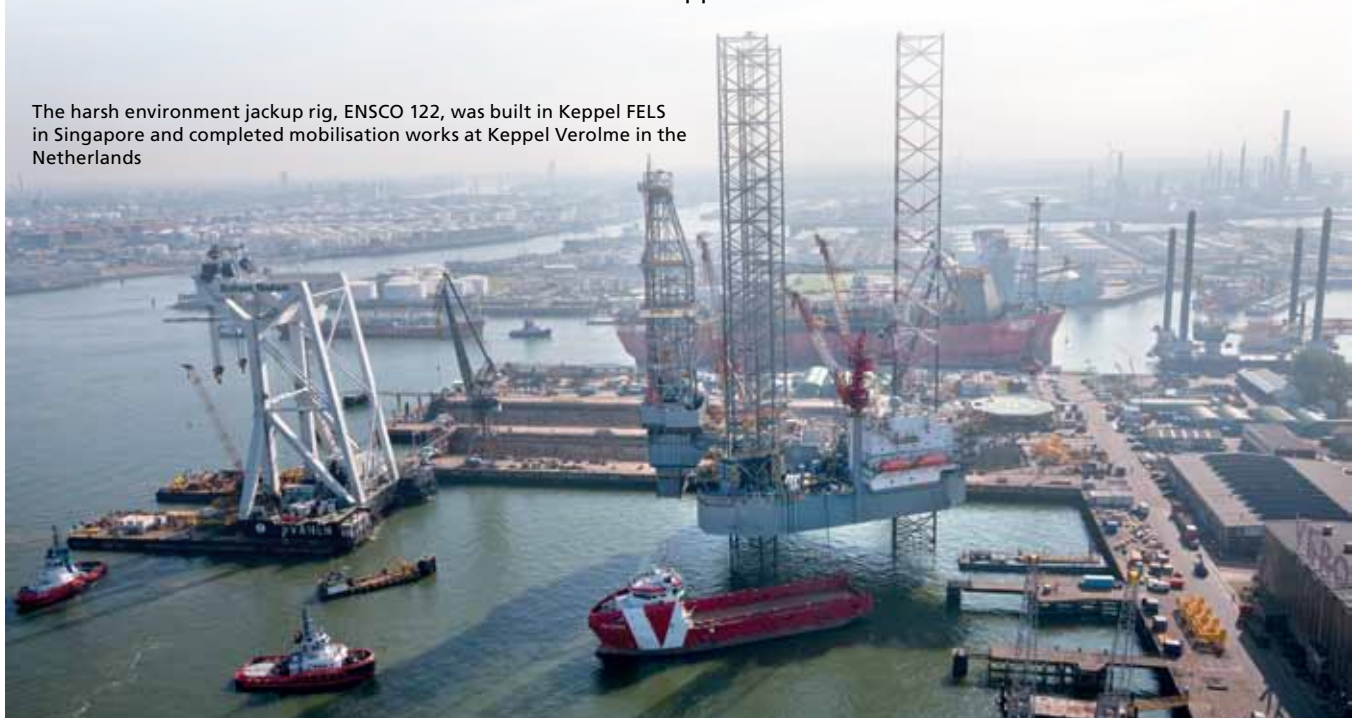
Earlier this year, in 2Q 2014, ENSCO 121 stayed at the Keppel Verolme yard for mobilisation and crew familiarisation purposes for two months.

REPAIRS AT BRASFELS

Separately, ENSCO 6004, a semisubmersible drilling rig, has completed repair works at Keppel FELS Brasil's BrasFELS yard in Angra dos Reis, Rio de Janeiro, Brazil. The rig left the yard on 12 October 2014.

Meanwhile, repairs for another EnSCO semisubmersible drilling rig, ENSCO 6001, continues and is slated for completion in 2014.

With growing capabilities in repair and upgrading, BrasFELS continues to have the trust and support of leading rig owners and operators around the world.



The harsh environment jackup rig, ENSCO 122, was built in Keppel FELS in Singapore and completed mobilisation works at Keppel Verolme in the Netherlands

Queen of the Malay Archipelago



Keppel Shipyard and M3nergy Offshore celebrated the naming of the FPSO Ratu Nusantara together with field operator, Petronas Carigali, and Indonesia's Upstream Oil and Gas Regulatory Special Task Force, SKK Migas, in the presence of Sabah Chief Minister, Yang Amat Berhmat Datuk Seri Panglima Haji Musa bin Haji Aman (third from left)

On 21 October 2014, Keppel Shipyard celebrated the near completion of a Floating Production Storage and Offloading (FPSO) conversion project for M3nergy Offshore.

The vessel was named Ratu Nusantara, which means "Queen of the Malay Archipelago", by Lady Sponsor, Datin Seri Hajjah Faridah binti Haji Tussin, in the presence of the Chief Minister of Sabah, Malaysia, Yang Amat Berhmat Datuk Seri Panglima Haji Musa bin Haji Aman.

Working together with excellent teamwork, the project teams of

Keppel Shipyard and M3nergy Offshore achieved more than 3.3 million safe man-hours without Lost Time Incident on the FPSO conversion project.

Keppel Shipyard's work scope for this project includes refurbishment and life extension works; fabrication and installation of new structures, piping systems, and spread-mooring system; upgrading of the living quarters; as well as the installation and integration of the topside process modules.

When the conversion is completed, the FPSO, which has a processing capacity of 25,000 barrels per day

and a storage capacity of up to 630,000 barrels, will be deployed in the Bukit Tua field, which lies 35 kilometres north of Madura Island, offshore Indonesia.

The FPSO Ratu Nusantara is the second collaboration between Keppel Shipyard and M3nergy Offshore. The two companies began their working relationship in 2009 with the conversion of FSO Ratu Songkhla.

On-track progress



Management and project teams from Keppel Singmarine and Bumi Armada celebrated the keel laying for the ice-class multi-purpose duty rescue vessel at Keppel Singmarine's yard in Singapore (top picture) and the two ice-class supply vessels at Keppel Nantong in China (bottom picture)

Work is well on track for the two ice-class supply vessels and one ice-class multi-purpose duty rescue vessel that Keppel Singmarine is building for Bumi Armada Offshore Holdings – a subsidiary of Bumi Armada Berhad (Bumi Armada).

The projects reached a key milestone recently when the management and project teams from Keppel Singmarine and Bumi Armada celebrated the laying of keels of the three vessels. The two supply vessels, which are being built at Keppel Nantong, Keppel

Offshore & Marine's yard in China, held the keel laying ceremony on 4 October 2014. On 10 October 2014, the keel laying was held for the multi-purpose duty rescue vessel which is being built at Keppel Singmarine's yard in Singapore.

When completed and delivered in 2015, these vessels will support the offshore platforms at the Filanovsky oil field in the northern part of the Caspian Sea, off the coast of Russia, providing year-round services such as the delivery of cargoes, salvage, search and

rescue functions, fire-fighting operations, and towing and tanker mooring operations.

The three ice-class vessels will also add to Keppel Singmarine's established track record in specialised shipbuilding, and will strengthen Keppel Singmarine's position in the global newbuild ice-class vessels market. To date, Keppel Singmarine has built seven ice-class vessels for the Arctic and Caspian regions, including Asia's first two icebreakers for LUKOIL-Kaliningradmorneft.

Safety in hearts and minds at Subic

Keppel Subic Shipyard marked a significant milestone in September 2014 when it achieved seven million safe man-hours without lost-time incidents for its Depletion Compression Platform (DCP) fabrication work for Shell Philippines Exploration, B.V.'s (SPEX) Malampaya Phase 3 (MP3) project.

SPEX MP3's project manager, Dr Antoine Bliet, presented a plaque of appreciation to the shipyard at the Barangay KAPIS Fiesta on 17 October 2014, an event which convened stakeholders of the project to celebrate achievements and further instill a safety mindset. KAPIS, or *Kaligtasan sa Puso at Isipan* in Tagalog, means "safety in the hearts and minds".

"Congratulations to Keppel Subic Shipyard on achieving this safety milestone. We encourage everyone to maintain this commitment to safety in day-to-day operations so that we can complete the project with a strong safety record," said Dr Bliet.

Mr Leong Kok Weng, President of Keppel Subic Shipyard, commented, "Achieving this safety milestone is only possible with the team efforts of Keppel Subic Shipyard and SPEX. Keppel Subic Shipyard has yard-wide safety programmes and systems, such as the Safety Observation Card, that aim to empower all employees and let them play an active role in workplace safety. By working together with a steadfast commitment to safety and

compliance, we can continue to ensure a safe working environment for everyone involved in the SPEX MP3 project."

The development of the DCP forms Phase 3 of the Malampaya Deep Water Gas-to-Power project, which is led by the Philippine Department of Energy and supported by the consortium comprising the Malampaya project operator, SPEX, and its joint venture partners, Chevron Malampaya LLC and the Philippine National Oil Company-Exploration Corporation (PNOC-EC).

When completed in early 2015, the DCP will be deployed next to an

existing shallow water production platform at the Malampaya gas field. The platform is designed to maintain the current availability and deliverability of natural gas from the Malampaya field through regulating the gas export pressure and flow rates.

The DCP comprises gas compression facilities mounted on a barge deck, supported by four tubular legs on base footings. Keppel Subic Shipyard is responsible for the fabrication of the entire DCP, including the integration of the topside modules and the fabrication of the link bridge connecting the DCP to the shallow water platform.



President of Keppel Subic Shipyard, Mr Leong Kok Weng (left with microphone), receives the plaque of appreciation from SPEX MP3 Project Manager, Dr Antoine Bliet (second from right), at the Barangay KAPIS Fiesta

Bolstering Brazilian ties

Underscoring its commitment as a proven partner for Brazil, Keppel Offshore & Marine (Keppel O&M) showcased its rig and ship designs and capabilities at Rio Oil & Gas (ROG), a biennial exhibition and conference event held in Rio de Janeiro, Brazil, from 15 to 18 September 2014.

Keppel O&M senior management including CEO Mr Chow Yew Yuen, Senior Advisor Mr Tong Chong Heong, MD (Marine & Technology) Mr Michael Chia, CEO and President of Keppel FELS Brasil Mr Kwok Kai Choong, and GM of Keppel Singmarine Brasil Mr Lee Yoong Hoong, AGM (Commercial & Yard Development) of Keppel Singmarine Brasil Mr Loh Kee Huat hosted business partners and customers during a reception held at the company's booth.

With over 4,400 delegates and booths from 1,300 companies, ROG is a leading oil and gas industry event in Latin America, serving as a premier platform for networking, discussing cutting-edge technology and promoting innovative ideas.

Undertaking projects for Brazil since the 1980s, Keppel O&M operates two yards in Brazil today. The group acquired BrasFELS in Angra dos Reis in 2000, and Keppel Singmarine Brasil in 2010.



(L-R) Mr Gustavo Sepúlveda, Business Unit Director, Petroleum & Marine Power of Sotreq, Professor Antonio, Mr Chow Yew Yuen, CEO of Keppel O&M, Mr Jefferson Werneck, Consultant, Projects Development of Sotreq, and Mr Kwok Kai Choong, CEO and President of Keppel FELS Brasil



Keppel O&M management, including Mr Kwok Kai Choong (left), CEO and President of Keppel FELS Brasil, Mr Michael Chia (second from left), MD (Marine & Technology) of Keppel O&M, Mr Gilberto Israel (second from right), Director (Commercial) of Keppel FELS Brasil, and Mr Chow Yew Yuen (right), CEO of Keppel O&M, met with business partners and customers, such as Mr Nishiki Hiroo, Project Director of MODEC, at Rio Oil & Gas 2014

Port of call

With growing global interest in Brazil's energy industry, management of Keppel O&M's BrasFELS yard hosted UBS representatives and US investors on 22 September 2014. The visitors gained a deeper appreciation of BrasFELS' growing capabilities and insight into the progress of ongoing projects.

BrasFELS' new 2,000-tonne crane started operations in April 2014 and has since lent its support for operations for projects such as FPSO Cidade de Mangaratiba MV24 and the first DSS™ 38E drilling semisubmersible unit.



UBS representatives and US investors called on BrasFELS on 22 September 2014 to learn more about Keppel O&M's Brazilian operations

Showcase at Temasek



Keppel Offshore & Marine's exhibition on display at Temasek Holdings' office building has generated interest from visitors and employees alike

Over two months in July and August 2014, visitors to Temasek Holdings' (Temasek) office at Atrium@Orchard were able to learn more about Keppel Offshore & Marine's diverse global businesses.

Exhibition panels accompanied by a jackup rig model and corporate videos were on display at the lobby of the office building.

The special exhibition has been well received by Temasek's management and employees, as well as visitors such as investors, business delegations and government officials from various countries.

Productivity push



To improve operations and enhance efficiency, Keppel FELS has been introducing greater automation to its engineering and production processes such as its automated panel line system which can now achieve the same work done with 48% less man-hours

As a champion of productivity improvements, Keppel Offshore & Marine (Keppel O&M) was a sponsor of the inaugural National Productivity Month, a national-level initiative by the Singapore Business Federation and the Singapore National Employers Federation.

A key message that organisers of the event aims to convey is that companies looking to raise productivity should look beyond cost reduction to adapt technologies and review organisational methods,

manpower and opportunities for collaboration.

To improve operations and enhance efficiency, Keppel O&M has been continually introducing greater automation to its engineering and production processes with enhanced design software and equipment.

For instance, Keppel FELS installed an automated panel line system earlier this year which reduces man-hours taken to produce a steel panel by 48% compared to a manual panel line system.

Industry update at Oslo

Keppel Offshore & Marine (Keppel O&M), a long standing supporter of the Pareto Securities Oil & Offshore Conference, joined some 1,800 investors, industry professionals and several of the world's largest oil and offshore companies at the event in Oslo, Norway, from 10 to 11 September 2014.

The event, organised by Pareto Securities, is the largest oil and offshore investor conference in Europe. It provided a valuable platform for Keppel O&M's management to network with customers, investors, partners, and gain insights into the latest trends and developments.

Over two days, industry professionals presented analysis on the outlook of the oil and gas sector, sharing a general consensus that the global demand for energy will continue to grow healthily. Service providers and builders in the industry also shared their latest offerings.

Mr Chow Yew Yuen, CEO of Keppel O&M, was the only speaker representing a rigbuilder from Asia. At Mr Chow's presentation, he provided an overview of Keppel O&M and how the group is reinforcing its competitive edge as it moves ahead. Among the new solutions which Mr Chow shared were Keppel O&M's

offshore solutions for the harsh environment and its foray into the floating liquefied natural gas (FLNG) vessel conversion market.

Other topics which Mr Chow touched on included the progress update of some of Keppel O&M's projects, such as the first three of the six DSS™ 38E semisubmersibles that BrasFELS is building for Sete Brasil, and which are progressing efficiently and on schedule.

BrasFELS is currently the only shipyard with proven offshore rig building, upgrading, repair and FPSO integration and conversion capabilities in Brazil.

Specialised delivery

On 11 August 2014, Keppel Singmarine successfully delivered Bhagwan Dryden, a 56-metre

catamaran air dive support vessel (DSV) to an Australia-based customer, Bhagwan Marine.

The DSV, which was built with a perfect safety record, sailed to Western Australia on 15 August 2014 to support the operations of Apache Energy.



Bhagwan Dryden, a 56-metre catamaran air dive support vessel, was successfully delivered to Bhagwan Marine after being built with a perfect safety record

Specialised units such as DSVs form part of Keppel Singmarine's growing track record in building bespoke and specialised vessels. Earlier this year, Keppel Singmarine secured contracts to build two ice-class supply vessels and an ice-class multi-purpose duty-rescue vessel, strengthening its position in the market of ice-class vessels.

N-KOM safety vision 2020



To create an incident-free workplace, CEO of N-KOM, Mr Abu Bakar Mohd Nor emphasised the importance of commitment from all parties at the launch of 'Safety Excellence 2020'

Nakilat-Keppel Offshore & Marine (N-KOM) has embarked on the next phase in its safety journey with the launch of 'Safety Excellence 2020'. Aimed at inculcating a stronger safety culture within the company, the campaign is a vision for 2020 towards achieving an incident and injury-free work environment where 'Nobody Gets Hurt'.

Launched on 22 June 2014, more

than 200 personnel comprising various stakeholders were in attendance to learn more about N-KOM's new safety vision and to pledge their commitment to the campaign. CEO of N-KOM, Mr Abu Bakar Mohd Nor, shared on N-KOM's approach to promote safety awareness and cultivate safe work behaviour, "Everyone in the yard is empowered to improve safety, and all efforts to build a

stronger safety culture will be recognised."

In addition to the safety-first emphasis by the management, N-KOM employees will also be placed on various engagement programmes and targeted training to help them develop stronger safety skills and ownership.

Sparking innovation



Keppel O&M celebrated the agility and innovativeness of the winning teams at the second Keppel O&M Innovation Awards on 3 October 2014

Keppel Offshore & Marine (Keppel O&M) has become synonymous with innovative and high-tech solutions – be it rigs for harsh environments, a floating liquefaction vessel conversion, or more efficient methods for building products. At the second Keppel O&M Innovation Awards on 3 October 2014, the group recognised the spirit of innovation behind ideas and solutions which have put Keppel at the forefront of the industry.

A total of 25 awards were presented to winning teams, whereby those who received Gold, Silver and Bronze awards were given cash prizes of \$15,000, \$10,000 and \$5,000 respectively.

Mr Loh Chin Hua, CEO of Keppel Corporation and Chairman of

Keppel O&M said, “We have always challenged ourselves to be at the forefront of new technologies for the industry, customising solutions to suit the market’s needs. This innovation awards, which recognises our efforts since 2009, is a good barometer of how our culture of innovation has progressed. I am heartened to learn that we have kept up our spirit of innovation with a total of 48 teams from 18 business units being nominated.”

Projects across Singapore and overseas business units were reviewed by a steering committee and assessed based on their level of impact and scalability, extent of alignment between their objectives and the group’s goals, and sustainability of results in the medium to long term.

One of the Gold winners is Keppel FELS’ renowned DSS™ 38 semisubmersible (semi) series. The new generation series with superior technical features is a proven design with two units in operation and another seven under construction.

The team behind Keppel Shipyard’s conversion of the world’s first Floating Liquefaction Vessel (FLNGV) was also recognised with a Gold award. FLNGV conversion is more cost effective and takes a shorter time to deliver as compared to building such a vessel from scratch. In this new niche market for Keppel, the team developed an enhanced constructability method to improve productivity and safety.

Keppel FELS’ expertise in developing robust rigs for the

KOM INNOVATION AWARDS CEREMONY 2014 – WINNERS

PROJECT NAME	BUSINESS UNIT	AWARD
Drilling Semisubmersible DSS™ 38 series	Keppel FELS & DTG	Gold
Harsh Environment Accommodation Semisubmersible – DSS™ 20NS	Keppel FELS & DTG	Gold
KFELS N Class Jackups	Keppel FELS & OTD	Gold
Conversion of a Floating Liquefaction Vessel (FLNGV)	Keppel Shipyard	Gold
Multipurpose Self Elevating Platform	Keppel FELS & OTD	Silver
CAN-DO Drillship	Keppel FELS & KOMtech	Silver
Automated Panel Line	Keppel FELS	Silver
Ice Class Floating Storage Offloading vessel – MTD13028FSO-IC	Keppel Singmarine	Silver
Composite construction plan for newbuild rigs	Keppel FELS	Bronze
140T Bollard Pull Anchor Handling Tug/ Supply Vessel (MTD 70140A)	Keppel Singmarine	Bronze
Piping Digital Factory	Keppel FELS	Commendation
Asian Hercules II – Jib 5	Keppel FELS	Commendation
Construction Methodology for the KFELS Super A Jack-up Rig	Keppel FELS	Commendation
Automatic Blasting System	Keppel Shipyard	Commendation
6-Axis Robotic Welding	Keppel Singmarine	Commendation
SAW-1G Welding Innovation for Flat and Curved Plate	Keppel Singmarine	Commendation
055G – Jackcase Turning System	KOMtech	Commendation
Drilling Rig Unit's (DRU) MegaBlock Lifting using 2000MT Gantry Crane	Keppel FELS Brasil	Commendation
FPSO Cidade de Mangaratiba – Flare Tower Lifting	Keppel FELS Brasil	Commendation
Evolution of Cofferdam Method for C-Joining	Keppel FELS Brasil	Commendation
FPSO Cidade de Mangaratiba – New I-tube Installation	Keppel FELS Brasil	Commendation
Underwater Launchway Integral Connection and Installation	Keppel Nantong / Keppel Nantong Heavy Industry	Commendation
Lift Boat Leg Columns Build Strategy Joining	N-KOM	Commendation
Portable Platform for Rigging Leg Rounds	Keppel AmFELS	Commendation
Mobile Offshore Application Barge	Keppel Verolme	Commendation

North Sea environments saw the KFELS N Class jackup rig and the DSS™ 20NS harsh environment accommodation semi for North Sea also receiving Gold awards.

Mr Chow Yew Yuen, CEO of Keppel O&M shared, "The success of our innovation and technology was evident from the fact that all of our orders for newbuild rigs in 2013 were for our proprietary designs. We continue to develop advanced and next-generation rig designs for harsh environments. These include the KFELS E Class, KFELS J Class and the KFELS N Plus, for which we have secured an order early this year. Our innovative products and solutions are what set us apart from our competitors, and make us a preferred partner to our customers.

"Innovation seldom ignites in a vacuum. I am glad to say that the group's multiple initiatives such as Innovation Quality Circle (iQC) events, Safety Innovation Team (SIT) Conventions and the Productivity and Innovation Steering Committee (PISC) have been very successful in fostering a culture of innovation."

Keppel FELS successfully overcame the challenge of delivering a record 21 rigs in 2013 by innovating, improving processes and increasing automation. They yard recently customised an automated panel line system which increased productivity by at least 30%. These and other key process

innovations were recognised at the Innovation Awards. A team from Keppel Shipyard created an automatic blasting process that not only reduces manpower and resources but also enhances safety. At Keppel Singmarine, the use of robotic welding has improved efficiency by 83%.

Keppel's innovative culture extends beyond our Singapore shores to operations overseas. Overseas projects which garnered awards include the 1,500-tonne gantry crane which was erected at Keppel Subic in 2013; the 2,000-tonne gantry crane which

BrasFELS has installed and a new panel line workshop in Keppel Nantong which is capable of fabricating up to 25,000 tonnes of steel per year.

Mr Chow rallied Keppelites to contribute towards Keppel's innovative edge. He said, "I would like to encourage every Keppelite to keep up the innovative spirit. Stay curious and keep experimenting with new ideas. Innovation is, and will always be, an essential part of our Core Values."

Innovation Gold Award Winners

DRILLING SEMISUBMERSIBLE DSS™38 SERIES



Alpha Star, a DSS™ 38 semi built for Brazil's Queiroz Galvao Oleo e Gas

The intermediate sized semisubmersible (semi) DSS™ 38 series was conceived by Keppel FELS and the Deepwater Technology Group (DTG) to penetrate the mid-water market. Innovative and cost-effective to build and operate, it was jointly designed with GustoMSC to be a new generation of vessels equipped with advanced technical features, surpassing industry benchmarks.

Suitable for well workover (completion and intervention), exploration drilling as well as development drilling, the

vessel is optimised in all aspects – functional requirements, motion behaviour, stability characteristics, safety, good layout of spaces, structural strength, structural arrangement, good construction and production-friendly features, and fabrication details.

Rated to drill depths of up to 30,000 feet below rotary table in 9,000 feet water depth, its operational displacement is approximately 45,000 tonnes. Currently, two units have been working successfully in offshore Brazil for Petrobras while another seven are under construction.

ACCOMMODATION SEMISUBMERSIBLE DSS™ 20NS

The DSS™ 20NS is a new generation accommodation semi designed to work in some of the harshest environments, meeting the most stringent rules and regulations for the Norwegian Sector of the North Sea. It incorporates some of Keppel's tried-and-tested enhancements as well as the unique requirements of its customers and their markets.

The first unit to be built to this design – Floatel Superior – was completed in 2010 and has been successfully operating in the North Sea. A second unit is on

track for completion in January 2015.

With Dynamic Positioning (DP) 3 capabilities, the DSS™ 20NS design can accommodate 440 persons in single bed cabins with ample recreation areas as well as office amenities. Well-equipped with a host of modern facilities, the vessel is ideal for construction support during new construction, maintenance activities or for decommissioning projects of offshore oil and gas installations.

The DSS™ 20NS design received the Prestigious Engineering Achievement Award by the Institution of Engineers Singapore's in 2013.



Floatel Superior is the first DSS™ 20NS accommodation semi built for the North Sea



An image of the Golar FLNG vessel which Keppel Shipyard is converting for Golar LNG, in collaboration with Black & Veatch

FLOATING LIQUEFACTION VESSEL (FLNGV) CONVERSION

FLNGVs are increasingly viable options for the offshore gasification of LNG in remote fields but newbuild FLNGVs can be costly to construct and take a considerable amount of time, especially for large fields.

Keppel Shipyard came up with the innovative solution to undertake the world's first FLNGV

conversion. With an enhanced constructability methodology that improves productivity and safety, their method of FLNGV conversion is more cost effective and provides a competitively shorter delivery schedule compared to a newbuild FLNGV.

This solution applies to all

economic production sizes ranging from a single LNG production train of less than 0.5 mtpa and up to 2.0 mtpa. Mid-sized FLNG solutions such as this one offer a faster and more cost effective liquefaction solution and helps address the growing midstream needs in bringing small and mid-scale LNG to market.

After undertaking a FEED study with Golar, Keppel Shipyard is undertaking its first two FLNGV conversion projects with option for one more conversion.

ROBUST KFELS N CLASS JACKUP DRILLING RIG

The team at Keppel FELS and its R&D arm, Offshore Technology



Three of the award winning KFELS N Class rigs have already been successfully operating in the North Sea

Development (OTD) had set out to develop a jackup that could withstand the challenging requirements of operating in the North Sea region, one of the world's harshest environments for offshore exploration and production.

The result of their unrelenting innovation is the robust KFELS N Class jackup which measures 568 feet (extendable to 598 feet) or about 56 storeys tall. It can operate in severe weather conditions in water depths of 400 to 500 feet, which are 40% deeper than traditional units in benign waters. Able to drill to depths of 35,000 feet, which is 15% deeper compared to existing harsh environment jackups, the

rig also has the flexibility to undertake concurrent drilling and production operations.

Three of the award winning KFELS N Class rigs have already been successfully operating in the North Sea.

To meet specific market and customer requirements for the rig to work in even deeper water depths, the team developed an enhancement to the KFELS N Class design - the KFELS N Plus jackup rig which is able to operate at a maximum water depth of 500 feet.

An order for the KFELS N Plus was received in March 2014 for delivery in 2017.

Accolade for good structural design



Mr Aziz Merchant (fifth from right), ED, Deepwater Technology Group, Keppel Offshore & Marine Technology Centre (Deepwater Technology) and Keppel FELS (Engineering) and his team, received the Singapore Structural Award 2014 for industrial structures from Prof Wang Chien Ming (sixth from right), Chairman of Institution of Engineers Singapore-IStructE Joint Committee

The Institution of Structural Engineers, or IStructE, an international membership organisation dedicated to the promotion of excellence in structural engineering, has accorded recognition to Keppel Offshore & Marine (Keppel O&M) Deepwater Technology Group's semisubmersible design DSS™38E. The design was conferred the Singapore Structural Award 2014 for industrial structures.

The award was received by Mr Aziz Merchant, Executive Director of Deepwater Technology Group, Keppel Offshore & Marine Technology Centre (Deepwater Technology) and Keppel FELS (Engineering) at an awards ceremony on 10 October 2014.

IStructE also gave out two other awards under the Structure and Infrastructure categories. Singapore Sports Hub (Arup Engineering) received the Structure award, while Marina Bay Sands' Helix Bridge (Worley Parsons) received the Infrastructure award.

The Singapore Structural Award for industrial structures recognises achievements in the structural design of commercial or retail structures, heritage buildings, education or healthcare structures, community or residential structures, entertainment structures and sports structures.

Established since 2010, the awards aim to honour the work of Singapore's most talented structural design engineers and their indispensable contributions to the built environment.

The award-winning DSS™ 38E design is an enhancement of Keppel's proven fifth generation deepwater solution, the DSS™38. With improved capability and operability, the DSS™ 38E is well suited to meet the stringent requirements of the deepwater "Golden Triangle" region, comprising Brazil, Africa and the Gulf of Mexico. Currently, Keppel O&M is building six units of the DSS™38E semis for Sete Brasil.

Jointly developed and owned by Keppel O&M's Deepwater Technology Group and GustoMSC, the DSS™38E design is an innovative and cost-effective design. It 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. The rigs can have accommodation facilities to house a crew of up to 160 men. It is designed to stay in position via eight Azimuthing thrusters and the configurations comply with the American Bureau of Shipping Dynamic Positioned System (DPS-3) requirements.

The IStructE has over 27,000 members working in 105 countries around the world. The Institution is an internationally recognised source of expertise and information concerning all issues that involve structural engineering and public safety within the built environment.

New appointments



Mr Hoe Eng Hock



Mr Abu Bakar Mohd Nor

appointments. Mr Hoe Eng Hock, 63, was appointed as Managing Director (Special Projects) of Marine Division. Prior to this appointment, he was Managing Director of Keppel Singmarine.

Mr Hoe has held various senior management positions across Keppel Group in Singapore and overseas. He was President of Keppel Philippines Marine from 1991 to 2002 and was instrumental in the setting up of Keppel Singmarine Brasil in Navegantes, Santa Catarina, Brazil, where he served as Executive Director from 2010 to 2012.



Mr Chandru Sirumal Rajwani



Mr Lau Kuat Pin

Over at Keppel Singmarine, taking over the Managing Director position is Mr Abu Bakar Mohd Nor, 48, who was CEO of Keppel O&M's joint venture shipyard in Qatar, Nakilat-Keppel Offshore & Marine (N-KOM).

Mr Bakar started his twenty-four year career with Keppel as an Assistant Safety Officer at Keppel Shipyard. He rose through the ranks and held various leadership positions before becoming the CEO of N-KOM.

Mr Chandru Sirumal Rajwani, Chief Executive Officer of Caspian Shipyard Company, 55, was appointed the new Chief Executive Officer of N-KOM.

As the global leader in offshore rig design, construction and repair, ship repair and conversion, and specialised shipbuilding, Keppel Offshore & Marine (Keppel O&M)

continually refreshes and strengthens its management team.

On 1 November 2014, Keppel O&M announced a slew of new

Mr Lau Kuat Pin, 60, Executive Vice President of Caspian Shipyard Company, was appointed Chief Executive Officer of the yard in Baku, Azerbaijan.

Walking down memory lane

"We will show you that we can still swing it and that our *Can-do!* spirit has not diminished over the years!" laughed Mr Chung Chee Kit, as he introduced his fellow band members and evergreen Keppelites – Mr Tham Yeng Fai, Mr Tay Kim Hock, Mr Fong Ying Yew, Mr Wong Ah Weng and Mr Ron Pereira – before the debut performance of the Keppel Alumni Singers.

The ballroom resounded with cheers and claps as the singing troupers took centre stage to kick off the Keppel Offshore & Marine (Keppel O&M) Alumni Dinner with

a sing-a-long series of familiar hits from the good old days. Led by Mr Chung, the Keppel Alumni Singers made their two-set performances look effortless, testament to their month-long practice before the Dinner, which took place on 24 July 2014 at the Orchard Hotel.

Themed "Memories of Keppel Harbour", the Keppel O&M Alumni Dinner saw the Keppel management catching up with former colleagues and long-time friends and joining them for a walk down memory lane.

Regaling the audience with *Can-do!* tales supported by photographs and anecdotes were Mr Tay Kim Kah and Mr Tham Yeng Fai. The other highlight of the evening was Mr Chung's presentation of his paintings and sketchings inspired by his visits to Keppel O&M's yards overseas. The nuggets of information he highlighted behind each art piece brought out the colour, character and heritage of each Keppel yard.

Indeed, for evergreen Keppelites and their spouses, the colour of days at Keppel will always stay gold.



Celebrating Keppel stalwarts



Chairman of Keppel O&M and CEO of Keppel Corporation, Mr Loh Chin Hua (front row, fourth from left) and CEO of Keppel O&M Mr Chow Yew Yuen (front row, third from left), together with union members, celebrated the achievements of long-serving Keppelites

To recognise long-serving Keppelites whose contributions have been paramount to the growth of Keppel Offshore & Marine (Keppel O&M), Human Resources organised an appreciation dinner for them on 22 August 2014.

During the event at Jurong Country Club, Keppel O&M Chairman, senior management and union members celebrated the contributions of 109 Keppelites across the group, who have reached the statutory retirement age of 62, having spent an average of 31 years each with Keppel. The majority have chosen to be re-employed by Keppel beyond the statutory retirement age. Among them is Mr Michael Chia, MD (Marine & Technology), Keppel O&M, who has served 34 years with Keppel. Making a speech at

the dinner, Mr Chia talked about his long but rewarding journey at Keppel, regaling the audience with tales of how he and teams across Keppel worked to overcome challenges and emerged stronger.

This is the first year that Keppel O&M's subsidiaries are participating in the appreciation dinner. Employees from Alpine Engineering Services, Keppel Housing, Keppel Seascan & Greenscan, Blastech Abrasives, Nusa Maritime and Prime Steel Kit joined fellow Keppelites to mark the new chapter in their careers.

Mr Chow Yew Yuen, CEO of Keppel O&M, recognised the contributions of these stalwarts who were instrumental in transforming Keppel O&M from a ship repair yard to a global leader in the offshore and marine industry.

He shared, "We have fostered a camaraderie beyond that of just colleagues. I have come to regard many of you as friends and fellow members of the Keppel family. The strong bonds that we have built on mutual respect, integrity, trust and fairness, have helped to develop a people oriented and results driven organisation with strong values."

These loyal Keppelites have also been valuable mentors to the younger generation. Mr Loh Chin Hua, Chairman of Keppel O&M and CEO of Keppel Corporation, said, "Your most remarkable contribution is having passed on the Core Values and your knowledge, experience and skills to the next generation of Keppelites. With your mentorship, these Keppelites are better placed to succeed."

Beacon of knowledge



Mr Choo Chiau Beng, Senior Advisor, Keppel Corp, has been appointed NUS Provost's Chair and Professor (Practice) in the Department of Civil and Environmental Engineering, Faculty of Engineering and Department of Management and Organisation, NUS Business School



Mr Aziz Amirali Merchant (left) and Dr Foo Kok Seng (right) have accepted invitations to be appointed as Adjunct Professors in the NUS Civil and Environmental Engineering department, as part of their involvement with the Keppel-NUS Corporate Laboratory



Even after his retirement as CEO of Keppel Corporation and Chairman of Keppel Offshore & Marine (Keppel O&M), Mr Choo Chiau Beng, Senior Advisor, Keppel Corporation, continues to actively share his experience, expertise and knowledge with the younger generation.

On 1 July 2014, Mr Choo was appointed by the National University of Singapore (NUS) as Provost's Chair and Professor (Practice) in the Department of Civil and Environmental Engineering, Faculty of Engineering and Department of Management and Organisation, NUS Business School. In this role, Mr Choo gives lectures at the two departments on a part-time basis.

Professor Phoon Kok Kwang, Distinguished Professor and Head of the NUS Department of Civil and Environmental Engineering,

welcomed Mr Choo in an email to all the staff and students of the department. In a separate newsletter, the department added that it was looking forward to Mr Choo's contributions to strengthen the university's ties with the industry.

Separately, two of Keppel O&M's senior management have also been invited by NUS to share their wealth of knowledge in the offshore and marine industry,

Mr Aziz Amirali Merchant, ED (Engineering), Keppel FELS, ED (Deepwater Technology), Keppel Offshore & Marine Technology Centre (KOMtech) and ED, Deepwater Technology Group; and Dr Foo Kok Seng, ED, Offshore Technology Development and ED (Shallow Water Technology), KOMtech, have accepted NUS' invitations to be appointed as Adjunct Professors in the NUS Civil

and Environmental Engineering department, as part of their involvement in the research work for the Keppel-NUS Corporate Laboratory.

The laboratory, established in collaboration with the National Research Foundation in November 2013, will develop technological solutions to meet future challenges of the offshore industry.

Both appointments are tenable from 1 August 2014 to 30 June 2016. Their experience in offshore engineering will contribute to tertiary sector efforts to nurture engineering students for the offshore sector. Through both veterans, professors, researchers and third party collaborators will have the opportunity to learn first-hand about the practical needs of the offshore industry.

Bright sparks

Keppel Offshore & Marine (Keppel O&M) held a congratulatory ceremony on 28 August 2014 for 73 Keppelites to mark the completion of their studies under scholarships offered by the company.

Exemplifying Keppel's *Can-Do!* spirit, some of the scholarship holders juggled work and studies in order to upgrade their skills. Having earned qualifications ranging from Higher Nitec to Master's degrees, the Keppelites were presented with congratulatory letters by Mr Chow Yew Yuen, CEO of Keppel O&M.

Mr Chow shared, "Your starting point is not of utmost importance. As long as you work hard and prove yourself, we will definitely provide you with opportunities to succeed."

Recounting Prime Minister Lee Hsien Loong's National Day Rally (NDR) speech, where he lauded Keppel for providing many opportunities for its employees to succeed, Mr Chow told the room of

hopeful graduates that Keppel O&M pays attention not only to university graduates but also those with ITE and polytechnic qualifications.

He said, "At Keppel, we recognise people with diverse qualifications. With a desire to succeed, you can be assured that the company will develop and recognise you."

For Flora Lim, Assistant Engineer at

Keppel Singmarine, opportunities at the workplace have been plentiful. The 21-year-old, who recently completed her diploma in Electrical & Electronics Engineering at Singapore Polytechnic, shared, "I am very grateful to Keppel Singmarine for sponsoring my studies so that I can pursue my passion in the offshore and marine industry. I am learning a lot at work every day and it has been an eye-opening journey."



Mr Chow Yew Yuen (right), CEO of Keppel O&M, congratulated 73 Keppelites on the successful completion of their Keppel O&M-sponsored studies. Among them was Flora Lim (left), who has embarked on a career with Keppel Singmarine



Keppel O&M management led by CEO Mr Chow Yew Yuen (front row centre in blue) and CFO Mr Wong Nigam Jih (front row fifth from left in white) join the Keppel O&M scholars and their family members to celebrate their graduation

A touch of history



Keppel Corporation senior management comprising CEO Mr Loh Chin Hua, CFO Mr Chan Hon Chew and Director of Group Corporate Affairs Ms Wang Look Fung visited Keppel Verolme in the Netherlands on 7 September 2014 (left photo) to meet with management at the shipyard. During the visit, they also seized the opportunity to stop by Keppel Castle (right photo) which is historically linked to Sir Henry Keppel, the British admiral from whom the Company derives its name. Sir Henry Keppel is a descendant of Walter van Keppel of Gelderland, a province in the Netherlands

Rising through the ranks

“The yard provides plenty of opportunities and it is up to you to learn as much as you desire to. Think about what your long-term goal is and what you need to learn in order to achieve your dreams.”

Roy Lim, Shipyard Manager at Keppel FELS shared this piece of golden advice with a group of 140 Technical Associates, Assistant

Technical Associates, as well as Nitec and Higher Nitec holders on 24 September 2014.

At the session, Roy spoke about his journey in Keppel Offshore & Marine (Keppel O&M). He recalled his early days at work in Keppel FELS’ predecessor, Far East Levingston, back in 1977 and how he juggled between work and night classes.

Starting just as an apprentice, he learnt skills such as welding, cutting and blueprint reading.

In his 37 years with Keppel O&M, Roy has served in various positions, including that of a technician, a foreman, a superintendent, and now as a shipyard manager offering leadership and guidance to thousands of workers.

Recounting how the challenges he faced made him a stronger and more resilient person, Roy urged the younger generation of Keppelites not to give up when faced with difficulties but to learn from the experience of their seniors.

He said, “The future is in your hands. If you have the right attitude, it will bring you very far.”



Inspiring 140 Keppelites, Roy Lim, Shipyard Manager at Keppel FELS, (first row, centre in white) shared candidly on the different lessons he gleaned during his 7-year journey in Keppel O&M

Rigorous training

For 15 weeks from April to September 2014, Keppel Offshore & Marine's (Keppel O&M) employees around the world came together in Singapore to build up their knowledge and skills.

Hailing from Brazil, the US, the Netherlands, the Philippines, China, Qatar and Singapore, the 22 individuals participated in the Diploma (Conversion) in Marine & Technology (DCMOT) programme.

The programme comprised a series of structured classroom courses at Ngee Ann Polytechnic and on-the-job (OJT) training at Keppel O&M's yards in Singapore. Each participant's OJT experience was customised according to the inputs of the head of their business unit.

The participants were also assigned mentors who actively shared with the participants their knowledge and experiences.

At a Meet-the-Management session on 1 September 2014 led by Mr Chow Yew Yuen, CEO of Keppel O&M, the participants shared on how the programme has impacted them and the valuable lessons they have learnt.

Viviane Yamaji, Project Superintendent at BrasFELS, Keppel O&M's yard in Brazil, said, "I was very motivated to learn even though the courses were very difficult and we had to study very hard. The training at Keppel FELS was also very good. It was an eye-opening experience; we got to see how Keppel FELS manages its operations and projects. I have learnt a lot and made many friends from this programme."

Eduardo Flores, Engineer at Keppel Subic Shipyard in the Philippines, said, "This programme has exceeded our expectations and broadened our knowledge. What

we have learnt is definitely helpful to our career at Keppel."

Arno Koenraat, Project Manager at Keppel Verolme in the Netherlands, remarked, "One of our lecturers, Subrata Chanda, taught us that many people know how but not why. Don't stop if you don't know, investigate and make the knowledge yours and share. It has been a great journey and we are truly thankful for the opportunity."

Mr Chow urged the participants to continue to challenge and stretch themselves. He shared that the participants should not only take away technical knowledge from DCMOT, but should also grow the friendships and network they have established with each other and others at Keppel O&M.



Keppelites from around the world were in Singapore to take part in the 15 weeks Diploma (Conversion) in Marine & Technology Programme

Can-Do! at ASCOPE



Over 50 Keppelites flew the Singapore and Keppel flags high with their sporting spirit at the 25th ASEAN Council on Petroleum (ASCOPE) Games. This year, the event was hosted by PetroVietnam in Ho Chi Minh City, Vietnam, and took place from 13 to 16 October 2014.

Established in 1975, ASCOPE comprises the 10 Association of

Southeast Asian Nations (ASEAN) country members who are mostly represented by their national oil companies. The bi-annual ASCOPE Games encourages esprit de corps among participants from across Southeast Asia, strengthening regional ties and providing a platform for friendly competition.

Led by Mr Hoe Eng Hock, MD

(Special Projects), Marine Division, Keppel Offshore & Marine (Keppel O&M), ASCOPE Games 2014 Contingent Head and President of Keppel Recreation Club, Keppelites displayed a fervent *Can-Do!* spirit in the sports of badminton, bowling, golf, table tennis and tennis. Despite the tough competition, Keppel's bowling and table tennis teams put in a determined effort to emerge with bronze medals.



“It is good to see the strong participation of the Keppel team. We always want to be competitive and do our best. For the ASCOPE Games, it is also important to build relationships and camaraderie with fellow participants, which I am sure our Keppelites have done,” said Mr Loh Chin Hua, CEO of Keppel Corporation and Chairman of Keppel O&M.

Besides working up a sweat in their respective sports, Keppelites also showcased their musical talents at the ASCOPE Games farewell dinner on 16 October 2014, performing a multilingual song medley to reflect Singapore’s multicultural heritage. It was a rousing performance that earned them the “Best Contingent Performance” title.

Keppel has been representing Singapore in ASCOPE since 2010, previously hosting the 77th ASCOPE National Committee & Associated Meetings in May 2014 and the 23rd ASCOPE Games in July 2010.

Celebrating with community in Brazil

JUBILANT DAY

Together with 20 students from local school Cornelis Verolme, Keppelites from Keppel FELS Brasil and BrasFELS celebrated Brazil's Independence Day on 5 September 2014 at the BrasFELS yard.

Following the singing of the Brazilian national anthem and flag-raising, the audience was treated to a moving performance by the spirited young students.

Praising their performance as "inspiring", Mr Kwok Kai Choong,

President and CEO of Keppel FELS Brasil, sprung a delightful surprise on the students and teachers by announcing that they were going to enjoy a trip, courtesy of the company, to Rio de Janeiro to visit the world-famous Cristo Redentor (Christ the Redeemer) statue.

SEEDING THE FUTURE

In the spirit of National Tree Day in Brazil, BrasFELS joined hands with a day-care centre and three schools in Angra dos Reis to nurture environmental awareness and cultivate a greener landscape.

On 2 and 3 October 2014, BrasFELS' senior management and employees carried out tree planting activities together with the students, teachers and employees of the day-care centre Dr Bezerra de Menezes Foundation (FEBEME), as well as the Francisco Xavier Botelho Municipal School, Dr Lauro Travassos Municipal School and CEDUC (Capacitar Educacional Cooperativa Ltda) School. In total, 40 fruit-bearing plants, such as jaboticaba, acerola, mango, tangerine, lemon, fig and orange, were transplanted to the day-centre and school compounds.

Mr Marlin Khiew, Vice President (Operations) of BrasFELS, said that this initiative was aimed at encouraging children and youths to embrace the responsibility of protecting the environment for future generations.

Mr Claudio Lourenço dos Santos, a Keppelite from BrasFELS' Painting Section, and whose son, Krisma Cleiton dos Santos, attends the Francisco Xavier Botelho Municipal School, said, "I always tell my son that it is important to be a good student, and to respect the environment and the people around us. Through these tree planting activities, BrasFELS helps to spread the message that we all have a part to play to build a better community."



Mr Kwok Kai Choong (first row, third from left), President and CEO of Keppel FELS Brasil, led the celebration of Brazil's Independence Day at BrasFELS with Keppelites and students from Cornelis Verolme, a local school in Angra dos Reis

Support for welding training



The first cohort of students being trained to be skilled welders at Keppel AmFELS

To support the community and boost the number of qualified welders in Texas, Keppel AmFELS is collaborating with Texas Southmost College, Workforce Solution Cameron and the Brownsville Independent School District, in introducing a welding programme for high school students that offers entry-level job certification.

The consortium launched the first welding class in late September and the first cohort of nine students report for work five days a week at Keppel AmFELS, where they are taught welding skills by the yard's master welders. Students who successfully complete the programme will receive a certificate of completion that

qualifies them for entry-level welding jobs at the company's Brownsville yard.

Simon Lee, President of Keppel AmFELS said, "At Keppel AmFELS, we believe in working with communities to achieve a sustainable future together. Partnering with Texas Southmost College and the Brownsville Independent School District to develop and train our youth is our long term commitment to Brownsville and our future workforce. We look forward to supporting the growth of students in this welding programme."

Championing excellence

To spur academic excellence, Keppel Credit Union (KCU) annually rewards members' children who have achieved outstanding results for PSLE, GCE 'N', GCE 'O', GCE 'A' and local university levels, as well as NITEC Higher and NITEC Diploma.

At the annual award ceremony held on 23 August 2014 at SAFRA Jurong, 29 Book Prize Awards totalling \$17,400 were conferred.

Prof Bernard Tan, Chairman of KCU and Board Director of Keppel Telecommunications & Transportation, exhorted award

recipients to "remember the less fortunate and needy" when they have succeeded in life.

To add to the joyous occasion, Prof Tan presented a token of

appreciation to Mr Chee Jin Kiong, former Director of Group Human Resources, Keppel Corporation, for his 34 years of service with KCU. The Board and Staff wished Mr Chee a fruitful retirement.



KCU members' children with outstanding academic results were conferred Book Prize Awards at an annual ceremony

Providing skills for growth

To help alleviate the plight of disadvantaged Filipino out-of-school youths, Keppelite volunteers from Keppel Batangas Shipyard joined hundreds of civic-minded Filipinos to take part in the annual nation-wide fund raising campaign organised by the Alay Lakad Foundation. Alay Lakad means “walk offering” in Tagalog.

Apart from participating in the walk through designated streets to raise awareness and donations, Keppel Batangas Shipyard will also offer 25 scholarships in structural welding, marine metal scaffolding, rigging and signaling courses this year to help needy but motivated school-leavers.

Last year, 18 out-of-school youths from Bauangueño, Bauan, Philippines, received full



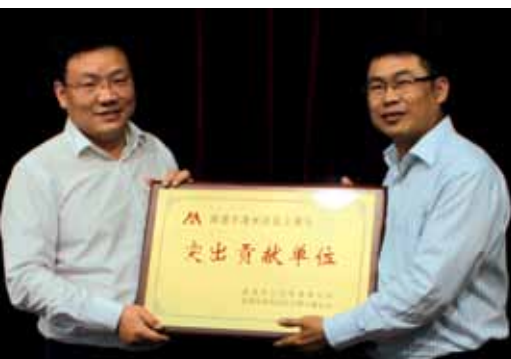
Employees of Keppel Batangas Shipyard took part in the annual Alay Lakad walk to raise funds for the campaign's socio-economic projects to benefit out-of-school youths

scholarships in structural welding. These scholars underwent classroom and technical laboratory training and apprenticeship under the guidance of qualified trainers and mentors at the Keppel Batangas Training Centre.

Mr Tan Geok Seng, GM of Keppel Batangas Shipyard, said, “Keppel

takes an active role in helping the Bauan community improve their lives in a sustainable way. By offering scholarships at the training centre at our shipyard, we aim to equip local out-of-school youths with useful skills and knowledge to build a lasting career and contribute to the Philippines’ marine industry.”

Spurring acts of courage



Mr Edmund Lek (right), President of Keppel Nantong, receives the appreciation plaque from Mr Zhu Yu Qiang, Secretary of Politics and Law Committee of Gangzha District, Nantong, for the shipyard's contributions towards the Foundation for Courageous Acts

As part of Keppel Nantong’s sustained efforts in giving back to the community, the shipyard has pledged to contribute a monetary sum annually to the Foundation for Courageous Acts set up by the local authorities of Gangzha District, Nantong, China, for three years starting in 2014.

The foundation plans to use the donated funds to reward residents of the Gangzha District who

display courage and bravery when helping others so as to foster a civic-minded community and create a safer living environment.

To express appreciation for Keppel Nantong’s contributions, Mr Zhu Yu Qiang, Secretary of Politics and Law Committee of Gangzha District, presented a plaque to Mr Edmund Lek, President of Keppel Nantong, on 30 September 2014.

Second Super B jackup rig for Japan

BOT Lease Co., Ltd (BOTL), an affiliated company of The Bank of Tokyo-Mitsubishi UFJ, has awarded a contract to Keppel FELS for a KFELS Super B Class jackup rig.

When completed at the end of 2016, the rig, which is provisionally named Hakuryu 15, will be operated by Japan Drilling Co., Ltd (JDC), based on a leased agreement with BOTL.

Mr Wong Kok Seng, MD (Offshore) of Keppel Offshore & Marine and MD, Keppel FELS, said, "We are pleased to have this opportunity to support BOTL, and to join hands with our valued customer JDC once again. Hakuryu 15 is

the second KFELS Super B Class jackup rig that will join JDC's fleet, and JDC's support is a reiteration of their trust and confidence in our proprietary solutions and companies.

"The KFELS Super B Class is an innovative solution for drilling rigs that can operate in deeper depths and at higher temperature and pressure levels. With 11 such rigs successfully operating around the world, we are confident this new addition will be just as successful for BOTL and JDC. Our strong understanding with JDC developed over several projects will stand us in good stead in delivering this rig to their highest standards, safely,

on time and within budget."

Mr Yuichiro Ichikawa, President and Representative Director of JDC, said, "Over the years, we have entrusted several of our newbuilding and repair projects to Keppel and they have proven to be a worthy partner. Hakuryu 11, our KFELS Super B Class unit from Keppel FELS was delivered safely and on-time in 2013, and has been working well in the field. Hakuryu 15 will enable us to meet the strong demand from our customers for premium class jackup rigs and strengthen our position as a leading offshore drilling contractor. We look forward to receive another outstanding drilling unit that fits our exacting requirements."

The KFELS Super B Class design has a drilling depth of 35,000 ft. This rig's leg structure is uniquely designed to provide enhanced robustness for operations at 400 ft water depth. The rig, adapted to JDC's operating philosophy, is engineered to operate in high ambient temperatures and can accommodate 150 personnel onboard. It features an offline stand building capability to handle drill pipes efficiently, a high capacity hook load of 2 million pounds, boosting overall rig performance and productivity.

Apart from newbuilding projects, Keppel O&M's yards in Singapore and the U.S. have also collaborated with JDC on the repair and maintenance of rigs such as Hakuryu 5 and Hakuryu 10.



Hakuryu 11, the first KFELS Super B Class jackup for JDC, was delivered safely and on-time in 2013, and has been working well in the field