

# OFFSHOREMARINE

Builder of distinction

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## 13 RIG DELIVERIES IN 2009

First FPSO for  
Gulf of Mexico

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With new contracts secured for the upgrading of Noble's drillships and pre-conversion work for an FPSO, Keppel O&M once again proves itself as the trusted name in Brazil's offshore industry. *OffshoreMarine* reports in detail on the contracts and activities that recently took place in BrasFELS yard.

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# Building Vietnam's first SSDT



Inking the contract for Vietnam's first SSDT to be built in Singapore, are PV Drilling's President Do Van Khanh and Keppel O&M's CEO CH Tong

Keppel FELS has secured the contract to build Vietnam's first semisubmersible drilling tender for PetroVietnam Drilling and Well Services Corporation (PV Drilling).

Targeted for delivery in the fourth quarter of 2011, this tender assist rig will be built to Keppel's award-winning KFELS SSDT™ 3600E design.

CH Tong, CEO of Keppel O&M said, "We are pleased that PV Drilling has chosen to reinforce our strong partnership with a contract to build a landmark rig for them.

"They have made the right choice in selecting the KFELS SSDT™ 3600E,

which has a proven track record for operational performance and HSE. We are confident that this rig will perform to their highest satisfaction, and look forward to deliver her on time, within budget and without incidents."

This versatile design has gained momentum in the international market for its resilience and suitability for operations in challenging environments across the world, including offshore Vietnam.

Keppel FELS has delivered five such units since 1994, all of which have been deployed off Southeast Asia and West Africa.

Keppel FELS has been involved in the Vietnamese offshore market for 25 years. During this time, it completed several milestone projects including the Hoang Sa, a 1,200-tonne floating crane in 1984 and Vietnam's first jackup rig, the Tam Dao I in 1988.

Prior to the new tender assist rig, Keppel FELS was also engaged to build PV Drilling's modern fleet of three KFELS B Class jackup rigs. The rigs have been delivered ahead of schedule and with outstanding safety records, the latest being PV Drilling III in November 2009.

# Keppel FELS sets 13-rig record for 2009

Keppel FELS has topped up its record of peak deliveries with 13 newbuild rigs, all of which were handed over to customers on time and within budget. The company was awarded a total of S\$2 million for early deliveries of most of these newbuilds, which included 8 jackup rigs, 4 semisubmersibles (semi), and 1 SSDT.

Wong Kok Seng, Executive Director of Keppel FELS said, "We were able to achieve this by consistently striving for operational excellence and innovation, backed by strong project management and close partnerships with our unions, customers, contractors and vendors.

"For 2010, we will remain focused on execution excellence and

further improving efficiency to deliver superior solutions and services safely, on time, and within budget, while pursuing more projects."

## VIETNAM'S PV DRILLING III

The KFELS B Class jackup rig, PV Drilling III, was delivered to Vietnam's PetroVietnam Drilling & Well Services Corp (PV Drilling) 1.5 months ahead of schedule and without incidents, earning Keppel FELS a bonus of S\$640,000.

Following the delivery signing ceremony on 14 November 2009, PV Drilling III departed Keppel FELS to begin a five-year contract with Vietsovpetro in the Bach Ho field, offshore Vietnam.

Do Van Khanh, President & CEO of PV Drilling, said, "The strong partnership we share with Keppel FELS has yielded yet another success in the early and incident-free delivery of PV Drilling III. We are confident that our latest jackup will continue the tradition of delivering strong performance to our customer Vietsovpetro."

PV Drilling III completes the series of three KFELS B Class jackup rigs ordered by PV Drilling since 2005.

CH Tong, CEO of Keppel O&M, said, "We are pleased to have delivered on our promises to PV Drilling, and exceeded their expectations in the construction of the three jackup rigs.

"The KFELS B Class' successful operational track record in



PV Drilling III completes the series of three KFELS B Class jackup rigs ordered by PV Drilling since 2005

offshore Vietnam not only attests to the strengths of the design but also that of our partnership with PV Drilling. We are proud of the value created by the KFELS B Class fleet for PV Drilling and look forward to support them further in growing their fleet capability and track record.”

#### INDIA'S GREATDRILL CHITRA

Another KFELS B Class jackup rig, Greatdrill Chitra, was also delivered to India's Greatship Global Energy Services Pte Ltd (Greatship) 12 days ahead of schedule, earning Keppel FELS a bonus of S\$300,000.

Ravi Sheth, Managing Director of the Greatship Group, said, “The successful construction of our inaugural rig, Greatdrill Chitra, is an important milestone for Greatship as we build up our fleet capability and quality to stand out in India's offshore industry.

“Keppel FELS has set the industry benchmark with its powerful KFELS B Class jackup rig design, which is a winning solution combining performance, safety, stability and eco-friendliness. We are pleased with the strong project management and execution, as well as safety commitment demonstrated by Keppel FELS to deliver this world-class product.”

Greatdrill Chitra has since arrived at the west coast of India and started operations for India's national oil company, Oil and Natural Gas Corporation, for a period of five years.



Gold Star, the world's first DSS™ 38 deepwater semisubmersible drilling rig is set to meet the unique challenges of Brazil's offshore operating environment

Ravi Waikar, Project Manager from Greatship, said, “Construction, commissioning and testing, spares supply and transshipment of the rig to India have all been completed in a safe and planned way. This could be achieved only due to the support and cooperation of Keppel FELS.”

#### BRAZIL'S GOLD STAR

Keppel FELS also delivered Gold Star, the world's first DSS™ 38 deepwater semisubmersible drilling rig, to Brazilian operator, Queiroz Galvão Óleo e Gás (QGOG), six days

early. Gold Star supports Petrobras' exploration and production activities offshore Brazil.

“There is no doubt that Keppel is one of the most capable shipyards in the world to build drilling rigs. Keppel FELS has the best experience with semisubmersibles, having built some very large production units for Petrobras to work in Brazil,” said Antonio Augusto de Queiroz Galvão, QGOG's General Director.

*Continues on page 6...*

"The achievement of high standards of safety and quality on Gold Star is the result of the mutual trust and teamwork between QGOG and Keppel. We look forward to build on the good rapport we have established, and also to the success of our second project, Alpha Star," he added.

### SEADRILL'S WEST VENCEDOR

The last rig delivery of 2009 was West Vencedor, the sixth of seven KFELS semisubmersible drilling tenders (SSDT) for Seadrill Limited (Seadrill). Keppel FELS delivered the rig ahead of schedule and within budget, garnering a bonus of S\$100,000.

West Vencedor is expected to commence development drilling operations in offshore Angola under a five-year contract with Cabinda Gulf Oil Company Ltd, a subsidiary of Chevron Corporation, in the first quarter of 2010.

Alf Ragnar Løvda, Senior Vice President of Tender Rigs Division of Seadrill, said, "Through Seadrill's 15-year partnership with Keppel, we have launched the successful KFELS SSDT™ Series of drilling tenders and established a solid operational track record.

"We are pleased to receive West Vencedor early. It represents another quality project for us and demonstrates Seadrill's and Keppel FELS's dedication and excellent project management.

"With that, we are also confident that the seventh SSDT, currently under construction, will be another outstanding rig bearing the KFELS SSDT™ stamp as a superior drilling tender solution in the global market."

Keppel Offshore & Marine Group has constructed four of Seadrill's world-class jackups. Construction

of the seventh SSDT and two jackups at Keppel FELS remains on schedule with expected deliveries extending from from second quarter of 2010 into 2011. When completed, Keppel-built rigs will make up 35% of Seadrill's premium fleet.

*"We are very pleased with our latest unit, West Vencedor. We are confident that she would continue to build on our track record and advance the global acceptance of our drilling tender solution."*

*Alf Ragnar Løvda  
Senior VP of the Tender Rigs Division  
Seadrill*



Management and project teams celebrating the success of West Vencedor

# Ready for offshore upturn



2009 has proven to be a challenging year but with the recovery in oil prices and capping the year with record deliveries, Keppel Offshore & Marine (Keppel O&M) has demonstrated its mettle and is confident of securing a good level of new orders in 2010. This was shared by CH Tong, CEO of Keppel O&M in an interview with the media. *OffshoreMarine* carries extracts of the interview.

## Q: HOW HAVE YOU BEEN AFFECTED BY THE FINANCIAL CRISIS IN 2009?

Despite the financial crisis that has affected a lot of industries, the unprecedented number of orders we received in the preceding years when oil price was at a high gave us a backlog that will see us through to 2012. Since then, in 2009, the Group has secured

contracts worth about S\$1.7 billion, with deliveries until 2013.

We have had a record year in terms of deliveries having successfully completed 13 jackup and semisubmersible rigs as well as six conversions and one jumboisation project in Singapore.

## Q: WHAT HAS THE BUMPER YEAR OF DELIVERIES DONE TO YOUR YARDS?

In the process of meeting construction milestones, we were able to hone our systems and processes, keeping our operations lean and improving efficiency in our yards.

We invested in people development, working closely with our unions on extensive training programmes and upgrading opportunities. We have built up an excellent partnership with our customers, vendors and subcontractors to the extent that they are involved in our safety programmes and courses. Working in concert with our partners enables us to execute our projects safely, efficiently and to the customer's satisfaction.

Significantly, we have also added more safety programmes and measures to ensure that our workers are safe as we aim for an incident-free environment.

## Q: HOW DO YOU SEE ORDERS FOR 2010 AND DO YOU EXPECT TO BENEFIT FROM THE PETROBRAS ORDERS?

Having seen orders from the

last quarter of 2009 picking up, the outlook for 2010 is certainly looking livelier. Generally, there has been an increase in interest, from both drilling contractors and oil companies.

We expect to get a fair share of the Petrobras orders, as we have an established yard in Brazil. However we are mindful of the intense competition. There are new yards being built in Brazil and others being planned. We will participate in the bids and now we are studying carefully the tender documents for the first batch of 7 drillships and 2 semis.

## Q: WHAT EXPANSION PLANS ARE YOU LOOKING AT?

With a clear product focus in our chosen segments of the offshore and marine industry, we will continue to expand our technology base to develop products that are commercially viable and relevant to the market's needs.

We are always on the lookout for meaningful acquisitions which will add value to our business. Examples would be distressed assets which we can turnaround.

It is part of our strategy to be where our customers are. It's for that reason that we have 20 yards around the world and some of the regions which we are currently looking at are Brazil, Mexico, Caspian and even Africa.

# Third ENSCO rig on track for delivery



Lady Sponsor, Mrs Cambria Reinsborough (centre, in red) names ENSCO 8502 in the presence of GOH, Minister of State Mr Heng Chee How (5th from left), and senior management of EnSCO International, Nexen Petroleum USA and Keppel FELS



Sharing the fruits of their success – EnSCO and Keppel present a joint donation of S\$15,000 to CEO of St Luke's ElderCare, Lee Chee Yeng (extreme right)

Keppel FELS is on track to deliver ENSCO 8502, the third of seven ENSCO 8500 Series® semisubmersible drilling rigs which Keppel has been contracted to build exclusively for EnSCO International.

Following her delivery, ENSCO 8502 will commence operations in the US Gulf of Mexico under a two-year contract with Nexen Petroleum U.S.A. Inc. during the second quarter of 2010.

On 5 December 2009, the rig was named by Lady Sponsor, Mrs Cambria Reinsborough, wife of Brian Reinsborough, President of Nexen Petroleum USA Inc, in the presence of GOH, Singapore's Minister of State, Prime Minister's Office, Mr Heng Chee How.





ENSCO 8502, the third of seven ENSCO 8500 Series® semisubmersibles that Keppel FELS has been contracted to build exclusively for EnSCO



Celebrating a win-win partnership that has deepened in trust and team spirit over two decades of collaboration – Seen here are Dan Rabun (left), Chairman, President and CEO of EnSCO with CH Tong (right), CEO of Keppel FELS

Daniel Rabun, Chairman, President & CEO of EnSCO, said, “We are very pleased with Keppel FELS’s construction of the ENSCO 8500 Series® ultra deepwater rigs.

“We have already invested more than half of the US\$3 billion committed to the ENSCO 8500 Series® newbuild programme, and we are well on our way towards having the world’s largest fleet of ultra-deepwater semisubmersibles capable of drilling in water depths of 7,500 feet or deeper.”

CH Tong, CEO of Keppel FELS,

said, “Our win-win partnership has flourished with solid trust and teamwork developed over two decades of collaboration.

“As a result of our accumulated experience and in-depth understanding of the ENSCO 8500 Series®, we have managed to improve construction lead time by 1.1 million manhours for ENSCO 8502, as compared to the first rig in this Series. This represents a 15% boost in efficiency.

“For the next four ENSCO 8500 Series® rigs, we are confident of timely deliveries as we support EnSCO in launching a quality fleet of high performance ultra deepwater rigs.”

Meanwhile, construction of the remaining platforms is on schedule, extending into 2012.

Work resumed as usual as Keppel FELS struck first steel for ENSCO 8506 and laid the keel for ENSCO 8505 on 15 December 2009, shortly after the celebrations.

Keppel O&M, through its global network of yards delivering on its “Near Market, Near Customer” strategy, constructed ten of EnSCO’s world-class jackups, which form a substantial part of the rig owner’s premium fleet of 42 jackups.

When the ENSCO 8500 Series® is completed, Keppel built-rigs will make up 30% of the driller’s fleet.

# Breathing new life into old vessels



When completed in the first quarter of 2010, Castoro Sei will be deployed in the Nord Stream project

Keppel Verolme has continued to meet customer demand for repair work over the past few months. With a new contract secured from Saipem recently, the yard will be kept busy in the coming year.

This latest contract involves the repair and modification works of semisubmersible pipelay vessel, Castoro Sei. Keppel Verolme will overhaul four thrusters, install new stinger handling support rails and repair and modify the onboard gantry cranes and fendering system of the vessel. Castoro Sei will also undergo an extensive hull blasting and painting programme.

Scheduled for completion in the first quarter of 2010, Castoro Sei will be deployed in the Nord Stream project. Nord Stream is a gas pipeline to link Russia and the European Union via the Baltic Sea.

Harold Linssen, MD of Keppel Verolme, said, "The new contract

"We had an excellent working experience with Keppel Verolme on the recent drydocking of Saipem 7000. Considering the time constraints and technical difficulties involved, we are pleased to again partner Keppel Verolme which has proven to be a reliable partner to Saipem."

In addition, Keppel Verolme has finalised the repair and modification job for Seajack, a jack-up barge on time and safely.

This vessel, owned by A2SEA, is used for offshore windmill installations. Keppel Verolme had drydocked the jack-up barge where a number of sheaves, shafts and bushes were reassembled and replaced onboard the vessel.

Seajack has since left the yard for the Thanet Wind Farm project in the North Sea.

demonstrates the confidence Saipem has in us. We will continue to execute our projects to the owner's satisfaction."

Tiziano Zarbo, Saipem Asset Manager for Offshore fleet, said



Keppel Verolme has finalised the repair and modification job for Seajack, a jackup barge, on time and safely

# Another trend-setting winner

Keppel FELS won the ASEAN Outstanding Engineering Achievement Award 2009 on 2 December for its semisubmersible drilling tender (SSDT) design, gaining recognition after several years of research and continual enhancements.

Just a few months ago, the KFELS SSDT™ also garnered the Institution of Engineers Singapore's prestigious Engineering Achievement Award for its environmentally friendly features.

Aziz Merchant, GM (Group Design & Engineering) of Keppel O&M and Head of Deepwater Technology Group (DTG), said, "The KFELS SSDT™ design has revolutionised drilling tender operations, because now we can use it against a floating platform in deep waters up to 2,000 metres."

In the past, conventional drilling tenders could only be deployed next to fixed platforms in shallow waters. Keppel FELS achieved a breakthrough with the KFELS SSDT™, which became the world's first drilling tender to operate in deep waters.

Before this design was introduced, it was virtually impossible for two floating units to operate side by side in deep sea. The turbulence caused by strong waves and the floating units would surely lead to collisions. The KFELS SSDT™'s



The KFELS SSDT™ design wins the ASEAN Outstanding Engineering Achievement Award 2009

ability to synchronise random motion between the ocean waves and the floating platform to which it is attached, makes this design truly award-winning.

In 2003, this SSDT was successfully deployed in more than 1000 metres of water in the West Seno field, offshore Indonesia. It was later installed alongside a deepwater Spar platform in the Kikeh field, offshore Malaysia.

Merchant shared, "DTG used model testing, as well as various simulation methods such as computer fluid dynamics and diffraction analysis to come up with the best methods of preventing collisions.

"Throughout our R&D process, we always had inputs from our customers. Today, we have derived

an extraordinary solution, which literally allows two floating bodies to move as one."

In recent years, the use of Keppel FELS's trend-setting drilling tender has gained momentum across international markets. It has proven its suitability to operate in even more challenging offshore environments, including the deepwater 'Golden Triangle' region made up of Brazil, West Africa and the Gulf of Mexico (GoM).

Still, the development process has not halted on this winning rig design. DTG is exploring ways to improve the KFELS SSDT™'s ability to handle hurricane season in the GoM, as well as increasing the rig's deck load to 5,000 tonnes from the current 3,600.

# A pioneer in Gulf of Mexico



Key representatives from Keppel O&M, BW Offshore and Petrobras celebrate another successful project at the BW Pioneer naming ceremony

Keppel Shipyard is on track to deliver the first Floating Production Storage and Offloading (FPSO) vessel for the US Gulf of Mexico (GoM) to BW Pioneer Ltd, an affiliate of BW Offshore.

Named at Keppel Shipyard on 26 October 2009, the vessel BW Pioneer will be turret moored at a water depth of about 2,600 metres – by far the deepest for an FPSO.

BW Pioneer has achieved an impressive safety record of more than four million incident-free manhours. She has been leased by Petrobras America Inc. to operate in the Cascade and Chinook fields of the US GoM, with

production scheduled for the first quarter of 2010.

Carl Arnet, CEO of BW Offshore, said, "The successful conversion of BW Pioneer is an important milestone for us. Being the first contractor to place an FPSO in the weather-exposed US GoM gives BW Offshore a seal of quality and strengthens our position and track record as a leader in the region."

Designed to handle the harsh operating conditions in GoM, BW Pioneer is equipped with an internal disconnectable Submerged Turret Production (STP) mooring system and outfitted with advanced safety features to

withstand environmental loads from currents, waves and wind.

In the event of an approaching hurricane, this highly advanced safety feature will allow the FPSO to disengage from site and move on her own propulsion to seek sheltered waters.

CH Tong, CEO of Keppel O&M, said, "Working with trendsetting customers over the years, Keppel Shipyard has achieved many 'firsts' in the industry for complex vessel conversions. BW Pioneer is yet another groundbreaking vessel, which we are proud to add to our track record.

"We thank BW Offshore for entrusting Keppel Shipyard with this significant project. Together with our valued customer, we have overcome the challenges of completing a unique FPSO for the US GoM. We look forward to further our relationship with BW Offshore and support them in developing their premium fleet."

BW Pioneer has a storage capacity of about 600,000 barrels of oil, a process capacity of 80,000 barrels of oil per day and gas export facilities of 16 million standard cubic feet per day.

This is the second FPSO Keppel Shipyard has delivered to BW Offshore in 2009. FPSO BW Cidade de Sao Vicente, which also achieved a zero incident safety record was delivered earlier as an Early Well Test FPSO for the gigantic Tupi deepwater field in Brazil.



BW Pioneer will be the first FPSO to be deployed in the US GoM



(From left) Lady Sponsor, Mrs. Adriana Zelada, Mr. Jorge Zelada, Chief International Officer of Petrobras, Mr. Carl Arnet, CEO of BW Offshore and Mr Nelson Yeo, MD of Keppel Shipyard taking a tour of BW Pioneer's unique facilities

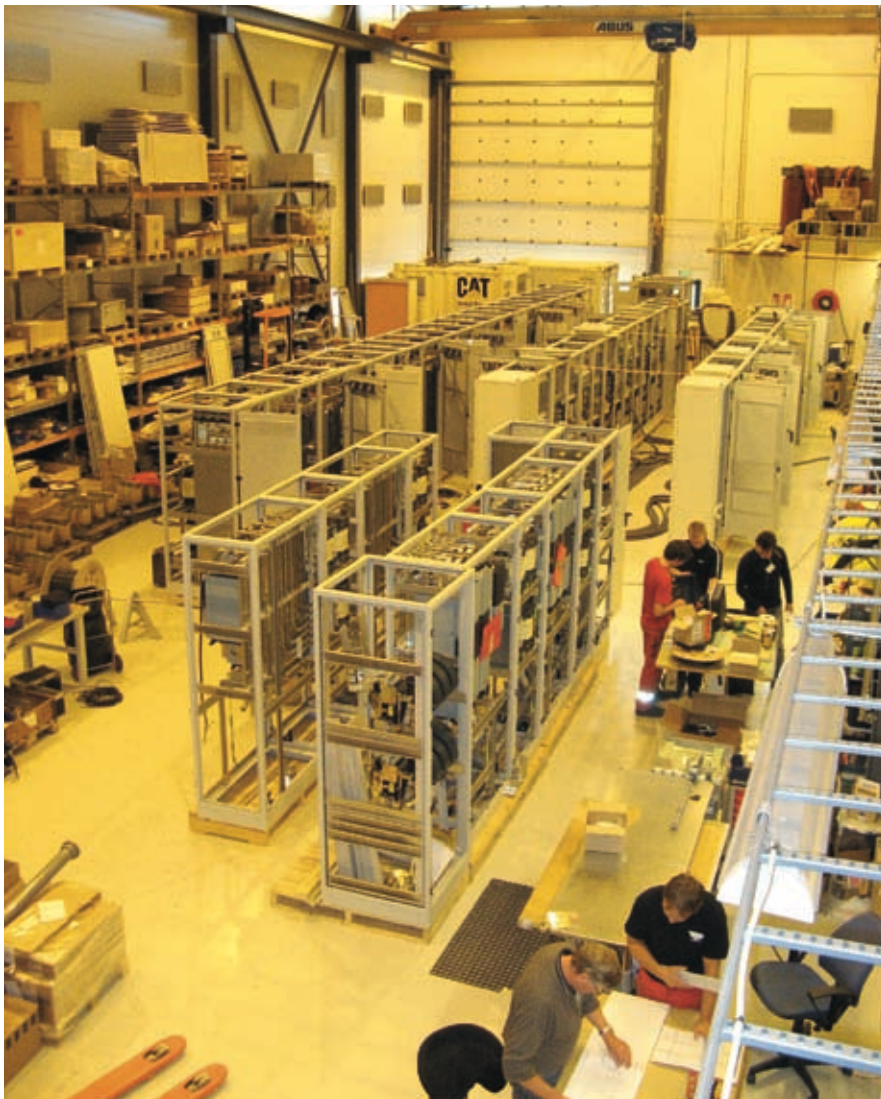
# Star solutions by Keppel Norway

Keppel Norway, a wholly-owned subsidiary of Keppel Offshore & Marine, is gaining solid ground globally as the choice developer and provider of system solutions and engineering services for the offshore market.

Backed by its credible experience and proven expertise, Keppel Norway was selected as the power systems provider for a deepwater semisubmersible rig being built by Keppel FELS for rig owner and

operator, Queiroz Galvão Óleo e Gás (QGOG).

In October 2009, Keppel FELS delivered Gold Star six days ahead of schedule to QGOG's satisfaction. Keppel Norway played an important role in the accomplishment of the landmark project, the world's first DSS™ 38 rig, through its successful commissioning and delivery of the 36MW power transmission and distribution system for the project.



Assembly of component packages in diverse locations, such as at Keppel Norway's Sandnes facility, seen here

The NOK 110 million contract covered the design, selection, manufacture and commissioning of all switchgear up to the vessel's 11kV generation voltage level, the full suite of transformers, variable frequency drives (VFDs) serving both drilling and propulsion applications, as well as eight thruster motors rated 3MW each.

Keppel Norway's Automation & Drives division has successfully engineered and supplied power system equipment to 35 offshore vessels to date including jackup rigs, semisubmersibles and icebreakers but the Gold Star represents its largest single contract so far.

Presently under construction at Keppel FELS, QGOG's second DSS™ 38 unit, Alpha Star is progressing well, utilising the same winning formula by Keppel Norway.

## A DECENTRALISED APPROACH

Clinching this large order was not easy, given the stiff competition from established players enjoying

economies of scale in the market. Keppel Norway's strategy was to offer an optimised solution where manufacture and assembly of system component packages would be carried out in locations most capable in their respective fields.

Hence, low voltage VFDs were assembled in Norway, low voltage switchboards in Singapore, transformers in Switzerland, and medium voltage equipment such as switchboards, VFDs and thruster motors in Germany. Other key system components included the uninterruptible power supplies assembled in Finland and braking resistors in Norway.

#### MANAGEMENT AND INTEGRATION

Project management and engineering was conducted centrally from Sandnes, near Stavanger in Norway. The international distribution of scope posed a formidable challenge, as Keppel Norway worked to ensure that its entire power system would function seamlessly, safely and robustly not just on its own, but in conjunction with every electrical or automated item that would eventually be installed on Gold Star.

This is where Keppel Norway's strength and expertise as an integrator and interface manager was critical. Unlike its more established competitors who centrally design, manufacture and deliver their entire power systems, Keppel Norway's decentralised and international approach required a much higher level of competence

in integration and interface management than that commonly available in the market.

#### DESIGN AND ENGINEERING

Right from the beginning at the conceptual design stage, no room for error was tolerated. Detailed technical studies and simulations were carried out with close collaboration and support from Keppel FELS. The extensive battery of design and engineering safety-nets were meticulously conducted to avoid modifications of the system at later stages of the project.

#### ENHANCED PRE-DELIVERY TESTING

Similarly, a detailed approach was applied towards manufacturing and testing. In addition to Factory Acceptance Testing of all equipment, a key integration test was carried out for the component assemblies of the thruster system.

Referred to as a String Test, it was a logistical milestone as the component assemblies had to be transported to a common testing site. Furthermore, the testing facilities had to be prepared and set up from scratch. The "string" consisted of a propulsion transformer, medium voltage VFD and thruster motor, all brought in from different locations across Europe to the testing site in Sandnes, Norway.

Various loadings were systematically applied to verify that the system would perform as designed, and the test served to ensure seamless integrated

operation much earlier than would normally be the case, which is typically during final stages of commissioning just prior to a vessel's delivery.

#### COMMISSIONING AND SEA TRIALS

The additional care and caution taken in the design and manufacturing stages paid off. During the commissioning phase following equipment installation onto Gold Star in Singapore, startup delays and interruptions were minimised significantly, leading to the early availability of a robust and operationally ready power system.

In the offshore phase of commissioning, installation and testing of individual thrusters were completed efficaciously. This was very quickly followed by comprehensive sea trials involving demanding integrated tests of the vessel's power management system and dynamic positioning system. These tests and trials were conducted and completed in record time and without incident.

#### A VALUE-ADDED COMBINATION

The success of Gold Star has been the identical core values and *Can Do!* spirit shared by the two Keppel companies – Keppel Norway and Keppel FELS – working in unison. Constant monitoring and direct cross-management engagement throughout the project, not possible in typical shipyard-supplier relationships, enabled quick and adequate responses to keep the entire project firmly on track.

# A toehold in Big Foot field



FloaTEC, LLC offers an extensive technology portfolio of multiple floating production solutions for its clients, such as the ETLP

FloaTEC, LLC, the joint venture of Keppel FELS and J. Ray McDermott has been awarded a contract by Chevron USA Inc. for the front-end engineering and design (FEED) of the hull, mooring and risers for the proposed Big Foot development facility.

The proposed facility will be installed in 5,187 feet of water approximately 200 miles from New Orleans and 35 miles south of Chevron's producing Tahiti field.

The goal is to develop Big Foot with a dry-tree floating drilling and production facility. The hull would be FloaTEC, LLC's proprietary

extended tension leg platform (ETLP), with associated foundation piles, tendon mooring systems and top tensioned risers.

Eric H. Namtvedt, President, FloaTEC, LLC, said, "We are very pleased to see our ETLP designs continue to offer superior value to Gulf of Mexico operators and to be given the opportunity to work alongside an industry leader such as Chevron. I am confident that FloaTEC, LLC, with the support from our JV parents Keppel and McDermott, will provide access to unique and large resources and capabilities and execute a quality FEED for our client."

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## Safe and swift service

In business, time is of the essence, and customers appreciate the efficient and effective approach taken by Keppel FELS to help them achieve results and meet challenges in this highly competitive market.

There were barely ten days to complete additional works requested by China Oilfield Service Limited Company (COSL), on the repair and upgrade of the jackup rig, Bohai IV, before the rig's scheduled departure.

With special attention to the project paid by Keppel FELS's management, as well as the dedication of everyone who worked on the project under the leadership of the yard management, the job was completed safely and on time.

Recognising the ingenuity, professionalism and hard work put in by the team, Song Guangli, Rig Manager of Bohai IV, commended Keppel FELS with a letter of appreciation for a job well done.



COSL's jackup rig, Bohai IV, underwent a quick makeover at Keppel FELS



# Breakthrough trial



Varandey surmounted the rigorous tests in the Arctic

Sailing from Murmansk, a seaport in the extreme northwest of Russia, the engineers and project teams experienced rough seas in icy stormy weather. Upon reaching their destination in the Arctic, they faced more arduous challenges such as working in conditions of minimum sunlight, strong bitter winds and temperatures as low as -15°C.

Tests were conducted on the drilling ice sheets to measure its thickness, as ice samples were collected to assess the salinity and hardness. The maneuvering characteristics and speed levels of the vessel were also tested with excellent results showing Varandey's critical capabilities.

Recounting the experience, Edmund Lek shared, "The success of the ice trial is due to good teamwork and I am proud of the vessel's ice breaking performance.

"From this experience, we have gained a better understanding of the ice breaking operations. This will allow us to further improve the engineering capabilities in the design and construction of future icebreakers."

Varandey was delivered to LUKOIL-Kaliningradmorneft in December 2008 and deployed to support the operations at LUKOIL's Varandey Terminal. Its sister icebreaker, Toboy, passed a similar ice trial five months ago at the Kara Sea in the Arctic.

It is no mean feat breaking through ice in the harsh Arctic environment but Varandey did it. Cutting through solid ice of up to 1.7 m thick, the second icebreaker built by Keppel Singmarine surpassed many rigorous tests in the Arctic.

From 12 to 23 October 2009, Varandey underwent an ice trial programme developed by Finnish Consultant, ILS and endorsed by the Russian Maritime Register of Shipping in the Arctic.

Providing critical engineering service support onboard the icebreaker, engineers and experts from Keppel Norway and various organisations accompanied Edmund Lek, GM (Production) and P. Muralee, Assistant Manager (Electrical, Production) of Keppel Singmarine, to conduct the ice trial.



Digging deep – Edmund Lek, GM (Production) of Keppel Singmarine (right) joins in the search for suitable ice sheets

# Sharing the MAXA experience



CH Tong, CEO of Keppel O&M receives a token of appreciation from Dr Beh Swan Gin, MD of Singapore Economic Development Board for strong support towards the MAXA programme

As the first homegrown firm to take the overall prize at the Manufacturing Excellence Award (MAXA) in 2008, Keppel FELS remains continuously engaged with the MAXA community.

Keppel FELS was one of four past MAXA winners which hosted a plant tour for MAXA's Manufacturing Excellence Community Networking Event, held on 30 October 2009.

Through the event, Keppel FELS shared its continuous efforts to uphold manufacturing best

practices, benchmarked to global standards in order to retain and sharpen its competitive edge both locally and internationally.

More than 20 visitors from the manufacturing community visited Keppel FELS's yard facilities and engaged in an informative discussion with its management.

Representatives from Keppel FELS also visited the facilities of the three other MAXA winners to learn about their manufacturing systems and innovations.

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# Fifth award in a row

On 29 October 2009, Keppel Shipyard added the fifth consecutive win of the Best Shiprepair Yard Award to its track record, at the 11th Lloyd's List Asia Awards 2009.

The award recognises Keppel Shipyard's ability to meet the needs of its customers without compromising cost effectiveness, quality and safety.

"We are fortunate that the hard work and strong relationships we have built up with our very supportive customers over the years are able to stand us in good stead, especially during this difficult period," shared Nelson Yeo, MD of Keppel Shipyard.

Summing up this year's awards ceremony, Lloyd's List Asia editor Marcus Hand said, "This year has undoubtedly been a challenging year for shipping, and the business world at large, however it is also

challenging times that bring to the fore true leaders. These leaders we see represented here as the winners of the Lloyd's List Asia Awards."



Nelson Yeo (holding the award), MD of Keppel Shipyard, celebrates the yard's fifth consecutive win at the Lloyd's List Asia Awards

# Safety's the best reward

Keppel O&M's mission to create an incident-free environment received a boost when projects across Keppel FELS and Keppel Shipyard achieved notable safety milestones.

## CULTURE OF VIGILANCE

Keppel FELS achieved a total of seven million manhours without lost-time incidents (LTI) on SKDP1, SKDP2 and SKDP3, the world's first three KFELS N Class jackups. Despite the scale of these projects, each twice the size of a regular jackup, Keppel FELS's ability to attain a good safety record speaks volumes of its vigilance and commitment towards safety.

Skeie Drilling and Production (SKDP), the owner of the jackups,

awarded Keppel FELS with a safety bonus of \$50,000 for the achievement on 17 November 2009.

Mark Aitken, SKDP's Site Manager, represented SKDP at the ceremony. He said, "In February 2009, Keppel FELS was presented with \$20,000 in safety bonus for achieving two million man-hours without LTI on SKDP1. I am pleased that Keppel FELS has continued to build on its efforts to deliver an even better safety performance.

"I believe that Keppel's strong risk management culture underpins these impressive records. I appreciate its efforts to upkeep this culture by educating all levels

of its workforce on the highest standards for safety."

## INCIDENT-FREE TURRET

Fabrication of the largest turret in the world (in terms of mooring loads) at Keppel Shipyard has achieved one million man-hours without LTI.

The internal turret is being built for SBM Offshore and supplied to BP Norge AS for its Skarv FPSO Unit.

Commending the safety milestone, Darren Ahrens, Turret Delivery Manager of BP Norge AS, said, "Safety was our first consideration since this project started and I am glad the vigilance and teamwork put in together with Keppel, SBM Offshore and our contractors have paid off. This will spur us on to achieve zero incidents."

Progressing on track, work on the turret includes fabrication of all Turret Mooring System (TMS) components, installation of all electrical and machinery equipment as well as fabrication and installation of all piping systems.



SKDP1, SKDP2 and SKDP3 – the world's first three KFELS N Class jackups – have achieved a total of seven million manhours without lost-time incidents



Walking the talk, the project teams of the BP Skarv turret project continue to demonstrate that safety is everyone's responsibility

# Fuelling a sustainable future



In a recent interview with international oil & gas newspaper, *Upstream*, held at ASEAN Council on Petroleum (ASCOPE), CB Choo, Chairman of Keppel O&M and CEO of Keppel Corporation shared insights on how Keppel is ready to play an even greater role in sustainable energy development, while maximising business potential and competitiveness in its core segments.

## ON OFFSHORE TECHNOLOGY

**Q. Which sector of renewable energy would be most relevant to Keppel?**

We are moving in some ways into renewable energy. The

most relevant would be using our offshore knowledge for the offshore wind business.

We are looking at possibilities as our offshore technology and expertise can be transferred selectively and innovatively to offshore wind farm installation.

**Q. Where do you see is the primary growth area?**

There is need for more wind farms to be installed offshore in deeper waters. Our technologies can be applied there.

Take for instance, in Australia, our subsidiary, Keppel Prince Engineering in Portland, Victoria, has been the country's largest producer of wind towers for wind farms since 2001 and has been rapidly expanding our renewable energy solutions into wave, solar and hydro energy.

Keppel Prince Engineering is striving to be the leader in Australia for the fabrication of renewable energy components.

## ON DEEPWATER POTENTIAL

**Q. How does the development of renewable energy sources impact Keppel, with your primary strength in the oil and gas segment?**

Currently, renewable energy is not likely to overtake fossil fuels in the foreseeable future. There will still be opportunities for the offshore and marine business, because of the long-term demand of energy in oil and gas.

However, oil and gas are resources that will deplete. We will always need to look for new sources and to develop new fields.

**Q. Where do you think is the market?**

Deepwater production in Brazil, Mexico, West Africa and possibly Australia. Anywhere that is deep water.

We see that the new areas to find oil and gas would be via deeper wells under water. In Brazil, that is called pre-salt. In the US, it is called lower tertiary. And also there are more requirements in the areas that are less explored, like the Arctic and ice-bound areas.

**ON RESOURCE NATIONALISATION**

**Q. On the issue of resource nationalisation in oil and gas, do you expect that Keppel will further expand its yard network?**

We are working more with national oil companies nowadays. Our strategy of being 'Near market, Near customer', is bolstered by 20 yards and offices around the world which enable us to work within and in line with national ambitions, and to have more local content.

Where there is oil and gas to be found and where there are rules on nationalisation, we may have to set up a yard there.

**Q. What are Keppel's plans for Brazil?**

Our Brazilian yard will be very busy in the next few years. We are there; we will capture some work; and where it makes commercial sense for Keppel as a company and for our shareholders.

**Q. Keppel is the highest bidder for the 8 FPSO hulls. Why?**

One of the requirements is that you must assemble the hulls in a new yard in the south of Brazil. To start up a green-field yard is expensive, time-consuming and management-intensive. And it takes many years for a new yard to make money.

**ON KEEPING COMPETITIVE**

**Q. What do you need to stay ahead in the market?**

You need to have a diversified portfolio, like us at Keppel. We do not just offer one product. We can build jackups, semisubmersibles, semi-drilling tenders, production units, and also undertake FPSO conversions and ship repair work. We are also in different markets. We operate a property business and we also build water treatment and waste-to-energy plants.

Because we are a diversified company, we are able to ride out the different cycles in each of these product markets.

We are not perfectly diversified, but we are diversified enough, that we feel we can ride out the cycles. You must have enough cash to ride out the storm. The key in business is to survive the crash and make money in the upturn.

**Q. How do you compete with yards that offer low cost?**

We must be more efficient in managing our cost, giving better value for money, for the owner to want to give us the business. That is the nature of all businesses. All companies compete based on the value proposition for the price they ask.

We have to be very conscious of our cost, and make sure we do not spend one cent more than we need to spend, in order to be very cost competitive. Our competition is global; we compete with everybody in the world.

# Brazil's preferred partner



The upgrading of Noble's drillships will create a base load of work stretching into 2013 for the BrasFELS yard

**"We have been equipping the BrasFELS yard and training our workers to take on more sophisticated jobs over the years, transferring expertise, technology and systems from our Singapore yards to Brazil.**

**"I am confident that we have prepared our BrasFELS yard well to participate meaningfully in the new jobs from Petrobras and drillers operating in Brazil and the region."**

*Y Y Chow  
President  
Keppel O&M USA*

They may be some 16,000 km apart, but continental barriers are no obstacle to Keppel O&M who has literally journeyed to the ends of the world to be near its market and customers in Brazil.

The Company's dealings with Brazil date back to the 80s where it undertook various vessel repair jobs from Petrobras. From then, Keppel established many important and lasting ties with Brazil and its people, which the Company continues to enjoy today.

As an early mover into Brazil, Keppel also contributed strongly to the country's track record for offshore and marine construction and conversion. It continues to achieve many 'firsts' through its BrasFELS shipyard, which is the

most comprehensive offshore and marine facility in Latin America.

Having proven its commitment and skill to deliver complex and large scale projects, Keppel has earned its stripes as the trusted name in Brazil's offshore industry.

## **A TRUSTED SOLUTIONS PROVIDER**

In December 2009, Keppel O&M's subsidiaries were awarded contracts to upgrade and repair three drillships, as well as perform pre-conversion work for a Floating Production Storage and Offloading (FPSO) vessel.

These new contracts were secured shortly after Keppel's equal joint venture with J. Ray McDermott received a Letter of Intent from Petrobras and Chevron to build



P-58, the former Roncador, will be the latest addition to Keppel Shipyard's track record of major FPSO projects for Petrobras and Brazil

and operate the billion-dollar P-61 Tension Leg Wellhead Platform (TLWP) for the Papa-Terra field in Brazil's Campos Basin.

#### **Noble's drillships**

Keppel FELS Brasil secured the contracts to upgrade and repair three of Noble Corporation's (Noble) Brazil-based drillships. The scope of work covers the fabrication, repair and replacement of components, including the stern section, accommodation blocks, sponsons and heliport.

The upgrading of Noble Leo Segerius, Noble Roger Eason and Noble Muravlenko will be done sequentially, beginning with the arrival of the first drillship at BrasFELS in Angra do Reis by early

2011. These new jobs will create a base load of work stretching into 2013 for the BrasFELS yard with deliveries starting from the last quarter of 2011.

CH Tong, CEO of Keppel O&M said, "Keppel O&M's network of global yards continues to advance the Group as the choice partner for the building, repair, upgrading and completion of offshore vessels across the world.

"We are greatly encouraged that Noble has chosen to work with Keppel FELS Brasil again. We hope to deepen this valued relationship and affirm their trust in our commitment to deliver the projects safely, on time and within budget."

### **Record-breaking safety on P-56**

Indeed, BrasFELS is well-prepared to provide greater local content for the growing amount of offshore work in Brazil.

Demonstrating its ability to carry out projects even more efficiently and safely, BrasFELS recently broke the local industry's record, achieving eight million manhours worked without reportable incidents on the P-56 floating production platform.

For this outstanding performance, BrasFELS was recognised by Petrobras at a ceremony in November, attended by KC Kwok, President & CEO of Keppel FELS Brasil and customer representatives.

BrasFELS continues to reinforce safety as its top priority through training programmes and seminars. This latest safety record attests to the success of the HSE management system and culture it has instilled at the workplace.

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When completed, the drillships will be deployed offshore Brazil to meet the requirements of Petrobras' extensive drilling plans.

BrasFELS recently completed the upgrade of the semisubmersible Noble Paul Wolff and is currently assisting Noble with the final stages of the Company's Noble Dave Beard, which arrived in Brazil earlier this year.

### **Petrobras' FPSO P-58**

Over in Singapore, Keppel Shipyard has been selected by Petrobras Netherlands B.V (PNBV) to perform the pre-conversion of P-58, an FPSO vessel destined for the Campos Basin.

Renato de Souza Duque, Services Director of Petrobras, said, "We know Keppel very well. They have completed many projects for us successfully and have demonstrated excellent project management and reliability. We look forward to another high quality project from them."

Keppel Shipyard's scope of work on P-58 includes structural and piping renewal, tank coating as well as refurbishment and upgrading of the living quarters. The vessel's arrival at Keppel Shipyard earlier in November 2009 was witnessed by an entourage of senior Petrobras officials led by Marco Tulio Pereira Machado, Espirito Santo Executive Manager and José Alberto Bucheb, E&P Pre-Salt Manager.

After Keppel Shipyard's scope is completed in the first quarter of 2011, the vessel will sail to Brazil for the rest of its conversion, which includes completion works on the topsides.

When fully deployed, P-58 will have a production capacity of 180,000 barrels of oil per day (bopd) and a gas compression capacity of 6,000,000 cubic metres per day. It will operate in Parque das Baleias' north field, in Campos Basin and spread moored at a water depth of 1,400m.

In addition to P-58, Keppel Shipyard's ongoing projects for Petrobras and Brazil include the major conversion of FPSO P-57 and FPSO Maersk Nova, as well as the modification and upgrading of FPSO Capixaba.

### **A MODEL EMPLOYER**

In transferring its expertise and

systems into Brazil, Keppel O&M has also paid special attention to nurture its local workforce as well as tripartite relations.

In a Union to Union initiative, Heads of the Metallurgist Workers' Union of Angra Dos Reis, Brazil – Paulo Ignacio Furtuozo, President, and Aguilar Ribeiro da Silva, Vice-President – were invited by Keppel FELS Union (KFEU), Keppel Employees Union (KEU) and Shipbuilding and Marine Engineering Employees' Union (SMEEU) to Singapore for a short exchange programme from 3-5 December 2009.

Focused on sharing their respective structures, best practices as well as experience in building industrial relations, both Singaporean and Brazilian Unions engaged in robust dialogue sessions with the management led by CEO of Keppel O&M, CH Tong.



Both Singaporean and Brazilian Unions engaged in robust dialogue sessions with the management led by CEO of Keppel O&M, CH Tong (centre)





KC Kwok, President and CEO, and Tommy Sam, CFO of Keppel FELS Brasil fielding questions from the fund managers and analysts who visited BrasFELS yard in early December



Keppel O&M continues to achieve many 'firsts' through its BrasFELS shipyard, such as the completion of FPU P-52 (above) and P-51 for Petrobras

As part of a well-balanced programme, the hosting Unions introduced their Brazilian guests to officials from the Ministry of Manpower, who touched on Singapore's labour legislations. Paulo and Aguilar also visited the Employment and Employability Institute, e2i, which focuses on enhancing workers' skills to match the changing needs of the economy.

Reflecting on the benefits of the exchange, Paulo said, "Although Singapore and Brazil's social-economic and cultural landscapes are quite different, the labour unions of both countries share similar challenges. As such, there is much the labour unions can learn from each other.

"I am particularly impressed by the strong industrial relations shared between Singapore's unions, workers and management. I am intrigued by how these different parties cooperate to achieve mutual benefits and weather economic downturns."

**A WINNING PROPOSITION**

As one research analyst puts it, there is a 'clear buzz' surrounding the Brazilian offshore industry, due in large part to the aggressive exploration and production programme which national oil company Petrobras has announced in recent years. This programme calls for a total of 40 new drilling rigs to be built. The first 12 rigs have been ordered in 2008.

*Continues on page 26...*

In September 2009, Petrobras issued the tender for the remaining 28 rigs, with delivery between 2013 and 2018, and with local content requirements. As a result, there is increasing investor interest in Keppel O&M's wholly-owned yard in Brazil.

Fuelled by this interest, a group of nine fund managers and analysts, led by Morgan Stanley, visited Keppel FELS Brasil on 7 December 2009 to gain a first-hand understanding of the operational capability of the BrasFELS yard. KC Kwok, President and CEO, and Tommy Sam, CFO of Keppel FELS Brasil, hosted the group. The investors were given a general overview of Keppel FELS Brasil, followed by a yard tour.

Keppel O&M's CEO, CH Tong said that with an established yard in Brazil, the Company expects to get a fair share of the Petrobras orders.

"Our BrasFELS yard is today the most comprehensive offshore and marine facility in Latin America, and has been able to meet Brazil's requirements for greater local content," CH Tong added.

Conrad Werner, the Morgan Stanley research analyst who was part of the group, commented in his report following the visit, "Keppel is well-placed. We received positive feedback from the (Brazilian drilling) contractors on Keppel's BrasFELS yard.

"Also, BrasFELS management indicated that all projects were progressing on time and on budget. Its presentation highlighted the key lessons it has learned over the past several years in building various production vessels for Petrobras. There will be a steep learning curve for any new player in the market."

Keppel is keeping itself abreast of the growing competition from shipyards being planned and built in Brazil. In response to this and the large amount of work coming on stream, CH Tong reveals that discussions are underway with potential partners on possible

expansion opportunities in Brazil.

Meanwhile, Keppel's operations in Brazil continue to receive the personal attention of top management from Singapore. In November 2009, Dr Lee Boon Yang, Chairman of Keppel Corporation (third from left) walked the grounds of BrasFELS yard, and acquired a firsthand perspective of the its capabilities and challenges.

After touring the yard, the Chairman commented that the BrasFELS yard holds a lot of potential, which Keppel will have to harness growing into the future.



Dr Lee (third from left) walks the ground at BrasFELS yard and gets personally acquainted with the Group's Brazilian operations

# FloaTEC's point man



Eric H. Namtvedt, President, FloaTEC, LLC is confident that FloaTEC will execute a quality FEED for their client

Being identified for the prestigious Papa Terra tension-leg wellhead platform EPC job with Petrobras has turned the spotlight on FloaTEC, LLC. Eric Namtvedt, President of the company, shared on how he has grown with FloaTEC in an interview with *Upstream*. *OffshoreMarine* reproduces extracts of the interview.

The letter of intent for the Papa Terra dry-tree TLWP – Brazil's first – was signed on 7 October 2009.

It has probably taken a little longer than Namtvedt, aged 55, or FloaTEC's parents expected when the 50:50 joint venture between fabrication giants Keppel FELS and J Ray McDermott was launched in September 2005. Namtvedt credits Keppel's experience in Brazil as a key competitive advantage for FloaTEC, LLC.

"Now it's a different challenge," Namtvedt says. "Everyone wants to see that we can do it. Obviously, everybody is going to be watching us to see how smoothly we will deliver."

FloaTEC was formed to provide multiple hull options for developing deep-water fields, be it spars, tension-leg platforms or semisubmersible solutions. Besides engineering expertise, it also offers access to fabrication capacity through joint venture founders Keppel and J Ray.

FloaTEC has hitherto generated income from conceptual engineering, screening and pre-front-end engineering and design studies, but it was never intended to be just an engineering company. It was always intended to deliver and Namtvedt knows that he – and FloaTEC – has not completely succeeded until he secures contracts that translate into jobs for the partners. It is perhaps the only yardstick he is measured by, and between J Ray and Keppel he has about 25 fabrication yards to fill up. Papa Terra appears to be a good start.

"My job is to create pull-through to the yards, not to sell engineering hours," Namtvedt remarks.

The native of Bergen draws his earliest inspiration from his father Peter Namtvedt, a pioneer in the Norwegian oil and gas industry. In

the mid-1970s the elder Namtvedt led the establishment of a coast centre base in Bergen to support the newer offshore discoveries, such as Statfjord and Troll, that were closer to Bergen than the existing support base in Stavanger.

Eric Namtvedt earned a business degree in the UK from the University of Warwick in 1978 after a year of engineering studies at the University of Zurich. His first job was with Mobil Exploration Norway where he worked for about 10 years.

He eventually shifted gears, entering the contracting industry in Singapore as senior vice president of business development for Kvaerner Oil & Gas in Asia Pacific.

The last 10 years in the contracting industry have, in Namtvedt's words, been "probably the most challenging" for him.

He is still trying to sell FloaTEC's version of a spar for which there is a growing list of opportunities in the Gulf of Mexico. He is also overseeing continued fine-tuning of a dry-tree semisubmersible design, which he says is available for clients which are ready.

Ultimately, Namtvedt's confidence rests on the roster of engineers he has helped assemble at FloaTEC. "I'm proud of this team. This is a powerful team."

# Strengthening ties with the Caspian

The Caspian region including Kazakhstan and Turkmenistan, is becoming an increasingly important market for Keppel O&M.

As Kazakhstan celebrates its national independence in December 2009, Keppel O&M's overseas subsidiary, Keppel Kazakhstan has reaffirmed its commitment to support the development of the country's hydrocarbon sector. In addition, Keppel O&M has expanded its outreach in Caspian recently by participating in a conference in Turkmenistan and hosting a visit from Azerbaijan's state oil company.

## CHARTING MILESTONES WITH KAZAKHSTAN

Kazakhstan declared its

independence almost two decades ago on 16 December 1991.

Since then, the nation has worked hard to pursue a liberal trade regime, increase employment and income, and develop its economy, especially its marine, oil and gas industry.

Kazakhstan has the Caspian Sea region's largest recoverable crude oil reserves with estimated proven hydrocarbon reserves of 40 billion barrels. This ranks eighth in the world.

As the country realises its vast production potential further, construction of more offshore infrastructure and equipment will be required to support and sustain the developments.



Well equipped for offshore work, Keppel Kazakhstan is the preferred shipyard for the Kashagan field

Against this backdrop, in 2003, Keppel O&M founded a shipyard, Keppel Kazakhstan in the seaport city of Aktau. It was among the first Singaporean companies to operate in the country.

The move is in line with its *“Near Market, Near Customer”* strategy to service the oil majors operating in the country. Together with its sister yard the Caspian Shipyard Company (CSC) in Azerbaijan, Keppel Kazakhstan enables Keppel O&M to better serve its customers operating in that region and strengthens the group’s presence in the Caspian.

The yard designs, constructs, converts and repairs offshore modules, structures and drilling units and specialised vessels such

as tugs and supply boats. It also serves as an offshore supply and logistics base.

The yard is presently staffed by more than 1,000 people, more than half of whom are locals. Through Keppel’s management programme, a number of local professionals were trained in Singapore and have become important members of the yard’s senior management team.

The yard management has also gained a keen understanding of the market and its operating conditions, as well as further enhanced its facility and services to meet its customers’ requirements.

With its full commitment in HSE, Keppel Kazakhstan has also

achieved seven million working hours without lost time incidents.

Today, Keppel Kazakhstan is the preferred shipyard for the Kashagan field. Keppel Kazakhstan has a track record of having constructed a series of seven transportation barges for Agip Kazakhstan North Caspian Operating Company N.V. (Agip KCO) to service the Kashagan field.

Currently, the yard is constructing pipe rack modules and pontoons for the Kashagan field development. Construction of two new pontoons for Agip KCO has recently commenced. Each measures 76m by 6m by 2.2m.

*Continues on page 30...*





Giving their foreign visitors a warm welcome, Chairman of Keppel Corporation, Dr Lee Boon Yang (left) and CH Tong, CEO of Keppel O&M (centre) introduce Abdullayev, President of SOCAR to Keppel's operations in Singapore

This follows the successful delivery of one of the most complex pipe rack modules in November 2009. Recognising the yard's execution excellence and commitment, Agip KCO commended Keppel Kazakhstan in a letter of appreciation.

Agip KCO's Contract Holder and Offshore Infrastructure and Civils Manager said, "Thank you for the hard work to deliver the pipe racks on time, complete, and most importantly, safely. This was an excellent achievement. The efforts of your whole workforce are appreciated."

Focused on the future, Yick Ping Wong, President of Keppel Kazakhstan shared, "Keppel remains committed to growing with Kazakhstan and supporting the government's development agenda.

"We will continue to contribute our expertise and know-how

to build up a competitive and competent workforce. This will translate into the creation of more jobs and the evolution of the local offshore construction industry, which will provide strong support for the development of the country's oil and gas sector.

### **STRONGER PRESENCE IN TURKMENISTAN**

Strengthening its presence while rendering support to the Caspian oil and gas industry, Keppel O&M will be setting up a representative office in Turkmenistan.

CH Tong, CEO of Keppel O&M, announced this at the 14th Turkmenistan International Oil & Gas Conference held from 17-19 November 2009 at the Ashgabat Exhibition Palace in Turkmenistan.

The topic of discussion was 'Strengthening international cooperation and encouraging investment in the development of Turkmenistan's oil and gas

industry'. CH Tong spoke of Keppel O&M being a partner of choice and provider of solutions for the Turkmenistan market.

Keppel O&M was a Bronze Sponsor of the event, which saw speakers from high level government officials and senior executives from oil and gas majors.

Turkmenistan is a rapidly growing economy with many investment opportunities. According to the International Monetary Fund, Turkmenistan will be among the top 12 fastest growing economies in the world in 2010.

### **GROWING TIES WITH AZERBAIJAN**

Keen to learn from their Singaporean counterparts and gain a firsthand view of Keppel's operations in Singapore, senior management from the State Oil Company of Azerbaijan Republic (SOCAR) called on Keppel O&M on 2 November 2009.

Led by Mr Rovnag Abdullayev, President of SOCAR, the delegation was hosted by Chairman of Keppel Corporation, Dr Lee Boon Yang and CH Tong. Aside from showcasing Keppel's offshore and marine capabilities, they also conversed about Keppel's potential role as further support in the Caspian region.

SOCAR is a strong supporter of Keppel's Shipyard, CSC, in Azerbaijan. Highlighting their intention for closer co-operation with Singapore, they were also here to officiate the opening of a SOCAR trading office.

# New safety champion

After nearly four fruitful years, Charles Foo, MD (Special Projects) of Keppel O&M relinquished his roles as Secretary to Keppel Corporation's Board Safety Committee (BSC) and Coordinator for Group Safety Responsibility.

Carrying on the torch is Abu Bakar Mohd Nor, Senior GM (Operations) of Keppel Shipyard. Abu Bakar is also GM of Health, Safety and Environment of Keppel O&M Group.

Safety is not new to Abu Bakar. He oversees a daily workforce of more than 10,000 workers, ensuring that each and every one of them returns home unharmed.

He has also been the Chairman of the Association of Singapore Marine Industries (ASMI) Safety Committee since 2005 and is a member of the WSH (Marine Industries) Committee under the WSH Council.

At ASMI's 41st anniversary dinner on 30 October 2009, he was presented with the Meritorious Silver Award for his contributions to the association as well as the offshore and marine industry. In particular, he has helped to champion various safety initiatives, taskforces and work groups.

On his new roles as Secretary to Keppel Corporation's BSC and



Abu Bakar receives ASMI's Meritorious Silver Award from the Minister for Manpower, Mr Gan Kim Yong

Coordinator for Group Safety Responsibility, he said, "Over the past four years, much effort was made to integrate and align safety across the business units. We need to continue on this path and find ways to maintain and further reinforce our efforts."

Abu Bakar, who is also Chairman of the Inter-SBU Safety Committee further elaborated that areas of opportunities can be explored to leverage Keppel Group's resources with its worldwide

presence and diverse operational expertise.

Looking ahead, Abu Bakar shared, "Our theme of 'Safety Starts with Me, Together We Care' showcases our commitment to enhance safety culture through personal and collective ownership. Our vision is for each of our business units to be the safety leader in the industry they are in and create an environment where nobody gets hurt."

# Set on zero incidents

Keppel O&M signed the Pledge for Zero Charter at the Marine Industries CEO Summit on 25 November 2009, organised by the Workplace Safety and Health (WSH) Council.

The Pledge reiterates Keppel O&M's commitment to achieve a zero-injury workplace and to work towards this goal through appropriate governance structures, resource allocation and safety strategies.

CH Tong, CEO of Keppel O&M, Nelson Yeo, MD (Marine) of Keppel O&M, Hoe Eng Hock, ED of Keppel Singmarine, and Wong Kok Seng, ED of Keppel

FELS, signed the Pledge with 23 other marine industry leaders.

Addressing the Summit, Mr Gan Kim Yong, Minister for Manpower, said, "The commitment of stakeholders is a critical ingredient to improving WSH performance and outcomes."

The Summit also saw the launch of a new self-regulatory programme, the Marine Industry Safety Engagement Team (MIndSET), developed by the Association of Singapore Marine Industries and supported by the WSH Council. MIndSET will involve six companies,



Keppel O&M is committed to working with all stakeholders to achieve a zero-injury workplace

including Keppel Shipyard and Keppel FELS, in cross-company safety visits, observations and sharing of WSH best practices with the industry.

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# Shared partnerships



Jeanie See, Director of JS Marine Engineering, receives the Best in HSE Award from CH Tong at the annual Keppel FELS Subcontractors' Night

To fortify its win-win partnership with subcontractors, Keppel FELS annually hosts the Subcontractors Night to share ideas and feedback on enhancing safety, productivity and profitability.

Held for the sixth year running on 29 October 2009, a strong showing of more than 150 subcontractors attended the dialogue session.

CH Tong, CEO of Keppel O&M said, "Thank you for your continued and committed support towards Keppel FELS, which has helped us deliver quality projects safely, on time and within budget.

"While we are working hard to secure new contracts, our focus is on ensuring that we execute our existing orders well, on time and on budget. This has to be done with all your support. We ask that our subcontractors continue to focus on executing well and safely the projects at hand, by working more efficiently and minimising resource wastage."

In particular, CH Tong urged all subcontractors to take up shared ownership in safety at the yards. He also presented the Best in HSE award to JS Marine Engineering Pte Ltd as well as four 10-year, and five 20-year long service awards to other subcontracting companies.



# Fostering friendships for growth

The Latin Asia Business Forum brings together some of the most successful business leaders from Latin America and Asia to highlight new opportunities for partnership in trade and investments, and to share market experiences, insights and expertise.

As one of the first Singaporean companies to invest in the region, Keppel was in good stead to share its experience with participants at the 6th Latin Asia Business Forum held on 12 November 2009.

Speaking at the second session

'Plugging the investment gap in Latin America', Michael Chia, MD (Offshore) of Keppel O&M and CEO of Keppel Integrated Engineering (KIE) spoke of Keppel's perspectives as a Singaporean company journeying into Latin America.



Michael Chia, MD (Offshore) of Keppel O&M and CEO of KIE, elaborates on Keppel's investment opportunities in Latin America

He said, "Over and above energy, basic essentials such as water and sanitation continue to pose serious issues to the growing populations across the Latin American region.

"In this regard, our environmental engineering units, KIE and Keppel Seghers, have been providing technological solutions in the water treatment area to several Latin American countries.

"With the growing emphasis on urbanisation and sustainable living, we see further opportunities to deploy our solutions for large-scale water and waste treatment including waste-to-energy, as well as to participate in private enterprise initiatives in these areas."

Keppel O&M was a Gold Sponsor of the forum. The Group's commitment to Brazil extends beyond business. It recently sponsored Amazonia Brasil, an exposition in Singapore showcasing the biodiversity and conservation efforts of life in the Amazon.



CB Choo (left), Chairman of Keppel O&M also shared insights and ideas with counterparts from Latin America at the forum

# Visiting the world's largest turret

On 27 November 2009, a BP delegation visited Keppel Shipyard to meet senior management, as well as the BP team on site.

Led by Rebecca Wiles, MD of BP Norway, the delegation also inspected an internal turret being built for its Skarv Floating, Production, Storage and Offloading (FPSO) unit. Its rated mooring loads make this the largest turret in the world.

The internal turret is constructed for SBM Offshore and supplied to BP Norge AS. Currently, it is on its way to Korea for installation on the Skarv FPSO unit.

The BP delegation also congratulated the Skarv turret project teams for having recently

achieved an important safety milestone of one million manhours without lost-time incident.



The safe and on schedule completion of the Skarv turret bears testament to the strong teamwork between BP, SBM and Keppel

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## Safety in our hands



A skit on the Do's and Don'ts for hand and finger safety was presented during the Keppel-Ensco Safety Incentive Programme award ceremony

Together with long-time customer Ensco, Keppel Batangas launched the fifth Keppel-Ensco Safety Incentive Programme. Focused on hand and finger injury, the programme aims to promote and reward excellent workplace safety practices.

30 workers and subcontractors were recognised for their exemplary efforts in preventing hand and finger injury.

During the award ceremony, the Safety Department presented a skit demonstrating the Do's and Don'ts for hand and finger safety.

"One uses his hands to feel things when he loses his eyesight. One uses sign language when one cannot talk. These demonstrate how important it is to take care of our hands and fingers," said Glynford Requiño, Safety Officer and Project Coordinator of Ensco International.

# The China connection



Lee Boon Yang, Chairman of Keppel Corporation (centre) and CB CHoo, Chairman of Keppel O&M (right) were received by Lee Tai Kwee, during their visit to Keppel Nantong

The port city of Nantong holds great potential and business opportunities, as noted by Dr Lee Boon Yang, Chairman of Keppel Corporation and CB Choo, Chairman of Keppel O&M, during a recent visit on 28 November 2009 to Keppel Nantong.

Received by Lee Tai Kwee, President of Keppel Nantong, Dr Lee and CB Choo were briefed on the yard's capabilities, strategies and challenges, and taken on a tour of the facilities.

While in Nantong, Dr Lee also met with Mr Ding Dawei, Mayor of Nantong Municipal People's Government. During the session with Mayor Ding, Dr Lee noted that there are many opportunities in the port city and Keppel is well-positioned to support China's emerging operators in growing their yard capabilities and offshore rig fleets.

Other topics such as the potential for property and wastewater



Hoe Eng Hock, ED of Keppel Singmarine, sharing Keppel O&M's processes and capabilities during the students visit on 28 October 2009

treatment plant projects in Nantong were also discussed at the meeting.

Since taking over in 2005, Keppel O&M has transformed the 16-ha non-operational yard into a state-of-the-art facility for the construction of a variety of offshore support vessels and structures.

On separate occasion, a group of 30 students from Shanghai Jiao Tong University, Tsinghua

University, China-Europe International Business School and Fudan University visited Keppel O&M on 28 October 2009.

These Chinese delegates viewed an informative presentation on Keppel O&M's products and operations. This was followed by an engaging dialogue session on the Company's processes, working culture and talent development initiatives.

# Expanding horizons



Thumbs up for the newly extended Pacific Dock



The newly extended Pacific Dock is able to accommodate the new generation of super large container vessels, VLCCs, containerships and bulk carriers

Committed to continually improve its service and capabilities, Subic Shipyard & Engineering, Inc. (Subic Shipyard), an associate of Keppel Philippines Marine, Inc., has successfully upgraded and expanded its facilities.

The blessing and inauguration of the extended graving dock and jetty, the newly opened training centre and the recently renovated

administration building was officiated by the Board of Directors on 2 December 2009.

“This capital investment is in line with Keppel’s Near Market, Near Customer strategy. These new facilities will enable us to provide more options and solutions to meet our customers’ needs,” shared Mok Kim Whang, President of Subic Shipyard.

Mok and his team’s *Can Do!* attitude and dedication have been credited for the efficient implementation of the yard expansion programme and its completion ahead of schedule.

The newly extended 550-metre by 65-metre, 550,000 dwt capacity drydock can now accommodate new generation super large container vessels as well as very large crude carriers (VLCCs), containerships and bulk carriers.

Subic Shipyard’s two quays are now 351 metres and 312 metres long after the jetty has been extended by 175 metres. A 100-metre 35-tonne jib crane has been added to increase operational efficiency in servicing double-banked Panamax and Capesize vessels for future afloat repair jobs in the yard.

The expansion plan also includes the two-storey training centre that will provide training in various technical trades such as ship and pipe welding and electrical works. In addition, modular office work areas have been introduced to maximise the workspace.

Subic Shipyard provides repair, conversion and building services for ship owners and oil rig operators. The yard specialises in coal transhipper conversion work with at least seven completed conversion projects. It also carries out routine and specialised machinery reconditioning works and steel fabrication for land-based and marine and offshore structures.

# Spurring innovation



Spurring innovation at Keppel Shipyard with the launch of the Innovation Club and its emblem for Imagine, Nurture, Create

The spirit of innovation soared high at Keppel O&M as Keppelites donned their thinking caps to put forth a barrage of ideas to improve their daily operations. This resulted in a host of new and innovative solutions that could yield substantial cost savings and create sustainable competitive advantages for the Company.

## KEPPEL FELS

Keppel FELS Innovation and Quality Circles (iQC) Convention 2009 saw the eager participation of some 48 teams whose unified goal was to better the company's operations and engineering solutions.

The combined use of these innovations could potentially save Keppel FELS \$5.24 million a year.

Giving away the awards at the closing ceremony on 27 October 2009, CH Tong, CEO of Keppel O&M, congratulated all teams on their ingenuity towards refining

operations as well as urged them to continue to be on the lookout for potential areas of improvement.

15 teams received the Gold Award, 19 achieved Silver Award, 12 were bestowed the Bronze Award and two took away Certificates of Participation. The teams were graded according to the National iQC Assessment Criteria.

For their commitment in leading and facilitating their iQC teams, Jeremy Khoo of Production (Mechanical), Nadar Rajesh of Production (Mechanical), Sethoo Srikanth of Quality Assurance and Wong Xi Ci of Logistics were conferred the Outstanding iQC Individual Award.

Exceptionally impressive were the proposed improvements by winners of the Million Dollar Project Award. The improvements suggested by Q-Box from Sub-contract Management

and Bar Walker from Logistics have projected cost savings of \$2.9 million and \$1.4 million respectively.

## KEPPEL SHIPYARD

Be it in the areas of engineering, operations or contracting, innovative ideas that improve safety, work processes and systems were submitted for Keppel Shipyard's annual iQC Convention.

A total of 23 teams across the three yards of Tuas, Benoi and Gul participated in the convention with awards given out on 11 November 2009.

The Challenge Cup was introduced at 2009 awards to recognise the yard that best utilises its current and previous projects. Implementing this category encourages the yards to track and ensure past projects are improved and maximised in daily work processes.

Benoi Yard received the Challenge Cup for having accumulated savings of approximately \$1.64 million from their innovations since 2004.

The Gold Award went to team Super Mould Die from Gul Yard's Hull Section. The team came up with an innovation that can save over 70% of time needed to straighten T-beams and fabricate fairlead roller caps simply by modifying the existing hydraulic pressing machine to function as a die and mould.

*Continues on page 38...*

## TECHNOLOGY

### Seedbed for ideas

Imagine, Nurture, Create. These are the tenets of Keppel Shipyard's Innovation Club. Launched at the iQC awards, the club was formed to encourage an innovative culture and create a network for employees to share and improve on one another's ideas.

Comprising three arms – Advisory, Nurturing Working – the club would serve to germinate, as well as sieve out and develop outstanding ideas from all workforce levels. The intention is to spur employees on to innovate and improve on their tasks. A resource centre has also been set

up to consolidate all ideas from other programmes as a reference point for the benefit of future projects.

### Pinning down efficiency

Sweeping four awards out of six categories at this year's iQC was team TOICA. They bagged the Outstanding iQC Team, Best Exhibit, Outstanding iQC Individual and Gold Awards.

Team TOICA's innovation centred on the enhancement of the drilling derrick erection procedure on rigs built at Keppel FELS.

Compared to the traditional method of erecting derricks, TOICA's method is more labour-efficient as it requires about 84% less man-hours and reduces hot works, thus helping to minimise potential risks to health, safety and environment and re-works due to damages sustained on painted surfaces. In addition, this new method cuts erection timing and cost by almost 50%.

After rigorous assessments, the team successfully implemented the method onboard two rigs at Keppel FELS. All future derrick erections will employ this new method.



Team TOICA claimed top honours, the title of Outstanding iQC Team, at the Keppel FELS iQC Convention 2009

# Living well at Lantana Lodge

Housing more than 8,000 workers in its three lodges, Keppel O&M continues to place emphasis on the welfare of its foreign workers and their assimilation into the multi-national workforce.

Lantana Lodge is the latest accommodation that Keppel Housing has developed for Keppel O&M's workers. From food stalls to recreational sports activities, residents get to build camaraderie with fellow colleagues in a homely setting. Keppel Housing also operates Acacia Lodge and Juniper Lodge for the Keppel O&M group.

Within the compound, the lodgers have access to many modern amenities such as convenience stores, banking and IT facilities while the bigger lodges also include a gymnasium and a canteen.

Various recreational activities also take place on a regular basis in these lodges to promote community living and team bonding.

Steven Lee, GM of Keppel Housing said, "We are among the first companies in Singapore to provide dormitories for foreign workers. It is our vision to be a caring host-employer to our foreign employees.

"We are constantly looking for ways to improve our services for these workers so that they are comfortable despite being away from their home countries. With the new Lantana Lodge, we

hope to provide good housing and holistic living to more of our employees."

He added, "We believe workers who live well, work well."

A resident of Lantana Lodge, 24-year-old A. Santhosh, likes his new home. He shared, "The place is comfortable and well-equipped with facilities. I can get almost everything I need here."



Residents of Lantana Lodge live well and work well

# ACTIVE participation



Keppel FELS employees and subcontractors try their hand at kickboxing at the annual ACTIVE Day

With pounding feet and punching fists, over a thousand Keppel FELS employees and subcontractors moved to the beats of popular tunes on 19 December 2009.

It was not a dusk-to-dawn rave party but ACTIVE (All Companies or Communities Together In Various Exercises) Day at Keppel FELS.

Led by a team of professional fitness instructors, the participants tried out a series of basic kick-

boxing moves, designed to help them stay fit and get in shape.

Addressing the ACTIVE Day crowd, Chandru Sirumai Rajwani, General Manager of Keppel FELS (Quality Assurance/ Commissioning), said, "I would like to take this opportunity to urge you all to practise healthy living. It is only with good health that we are able to be at our most alert and productive, allowing us to live life to the fullest. I am happy to note that there are many active

sportsmen and sportswomen amongst us.

"Mr Choo's driver, Hasan, is one good example. At 55, he goes for at least four hours of badminton training every week. He gives players half his age a run for their money at Keppel's internal badminton tournaments.

"With a little motivation, like Hasan, we can all strike a healthy balance."



# Roses among the thorns

Telling the tale of two women who took the path less travelled, NTUC This Week published an account of Nur Idayu Siron and Ezattul Farlina Mohd Nasir's venture into a sector traditionally dominated by males. *OffshoreMarine* reproduces extracts of the article:



Nur Idayu Siron (right) and Ezattul Farlina Mohd Nasir (left) defy traditional stereotypes to take up welding at Keppel Shipyard

When 28-year old Nur Idayu went to National Trades Union Congress' (NTUC) Employment and Employability Institute (e2i) for a job placement, it did not cross her mind that she would be among the first women to attain a job that is usually male-dominated.

Keppel Shipyard broke stereotypes by supporting the employment of female workers at its workplace. Partnering e2i and the Shipbuilding and Marine Engineering Employees' Union (SMEEU), a job fair was held in August 2009 to hire workers for four job functions – HSE coordinators, welders, drivers and trainee steersmen.

With layoffs in the electronic sector, SMEEU took the opportunity to recruit women for the shipyard and marine industry by re-designing job scopes that offer a safer work environment.

A total of 20 women registered at the job fair and eventually Nur Idayu and Ezattul Farlina Mohd Nasir were hired as welders.

"I had done soldering work before and I enjoyed it. When there was an opening at Keppel Shipyard, I grabbed it," said Ezattul Farlina, also 28 years old.

Nur Idayu, who wanted to challenge herself, said, "I chose this position because I wanted to prove to myself that I can be as good as the men in welding."

# Power from the roof



KOMtech has installed two PV cells power plants on its roof-top

KOMtech has installed two photovoltaic (PV) cells power plants on its roof-top to convert solar energy into electricity. The total expected annual energy savings by the two PV plants is about 60,000 kWh per year and estimated avoided CO<sub>2</sub> emission over their projected lifespan of 25 years is 1,300 tonnes. *OffshoreMarine* brings you abstracts of research on the main advantages of this green feature at KOMtech.

Singapore being about 140 km from the Equator is well placed to benefit from the year round sunshine. Just a tiny fraction of the Sun's energy is enough to meet all our power needs.

There are many uses of solar energy and one of them is using

photovoltaic cells to convert light energy into electricity.

Operating mostly during daylight hours, it made sense for KOMtech to adopt photovoltaic technology to generate electricity to complement the power supply from the National Grid. This was the basic objective for installing two 21kW 3-Phase PV power plants in KOMtech.

In any power or energy generation system, the lower the number of energy conversion stages, the more efficient of the system will be. In the case of KOMtech's PV power plant, light energy is converted into direct current electricity by the PV panels, which is then inverted into useable alternating current form and consumed without any storage of generated energy.

The average useful lifespan of a PV plant is about 25 years during which it is able to generate energy savings of some 30,000kWh annually. With two such plants, KOMtech can potentially save as much as 1.5 million kWh in all.

With the breakthrough in the low cost manufacturing of PV panels coupled with increasing cost of conventional electricity generation, the PV economics can only improve. This project also illustrates similar green features can be used to help save energy and costs for Keppel O&M in the near future.

Article contributed by:  
*E.T. Mohan Dass,*  
*Program Manager of KOMtech*

# Group roots for disaster relief

Thousands of lives lost, homes wrecked and livelihoods destroyed – great devastation has been left by disasters that hit Singapore’s neighbouring countries Indonesia, Vietnam and the Philippines in recent months.

To help alleviate suffering and rebuild lives, Keppel O&M has been actively involved in Keppel Group Charity Golf Tournament through fund-raising initiatives as well as donating relief goods such as rice, noodles, bottled water and canned goods.

These disaster recovery aid efforts have enabled Keppel Group to raise \$600,000 for the Charity Golf Tournament. Keppel Group will be channelling these funds through the Singapore Red Cross Society to relief efforts for the respective communities.

On Keppel’s drive for the good cause, Chairman of Keppel O&M and CEO of Keppel Corporation, CB Choo, said, “Keppel has been privileged to grow in Indonesia, Vietnam and The Philippines. These respective communities are important to us and we seek to impact their lives positively.

“We believe as communities thrive, we thrive. It is our hope that these setbacks will not dampen the courage and fighting spirit of the people as they work towards recovery and restoration to emerge even stronger.”

The Keppel Group Charity Golf Tournament held on 10 November 2009 in Ria Bintan Golf Club, Indonesia, drew 120 golfers from Keppel’s network of customers and business associates who swung to support the cause.

“Keppel has been privileged to grow in Indonesia, Vietnam and The Philippines. These respective communities are important to us and we seek to impact their lives positively.”

*CB Choo  
Chairman of Keppel O&M and  
CEO of Keppel Corporation*



Keppel O&M management and business associates swung to action in the name of chari-tee

# Nurturing communities in Brazil



Keppel promotes education in Brazil by sponsoring R\$40,000 to a literacy programme to train teachers in Angra dos Reis

Keppel continued to engage the Brazilian community with more initiatives, this time in Rio.

As the main sponsor of the Uniquely Singapore yacht in the 09-10 Clipper Round the World Yacht Race, Keppel had worked closely with the UK owner and organiser of the Race, Clipper Ventures Plc, to bring the 10-strong international fleet to Rio.

It was the first time the Clipper Race included a stopover in Rio, Brazil. The colourful fleet was berthed at the late Clube do Rio and their presence provided a platform for promoting friendship and goodwill in the community.

Marking the event, Keppel presented a R\$40,000 sponsorship to a literacy programme to train teachers in Angra.

KC Kwok, President and CEO of Keppel FELS Brasil, said, "We have been privileged to participate in

and contribute to the growth of Brazil, whether economically or socially, and will continue to be active in doing so.

"Once again, we are reaching out to youths by enhancing education with our sponsorship of a literacy programme for teachers in Angra. This sponsorship reaffirms Keppel's long-term commitment to grow with Brazil into the future."

"We are very happy with Keppel FELS Brasil's sponsorship, which will help to improve education standards in Angra. This is very good for Angra as it will also help to increase job opportunities for our people," shared Artur Jordão, Mayor of Angra dos Reis who received the sponsorship cheque on behalf of the local teaching community.

Speaking on employment, Mayor Jordão added, "We want Brasfels to create more jobs in Angra. Angra's doors are open to Keppel

FELS Brasil, whatever you need, whenever you need it, you can count on the city of Angra."

## THE RIO HERO

On his recent trip to Brazil to mark the arrival of the Clipper fleet, CB Choo, Chairman of Keppel O&M and CEO of Keppel Corporation, received a hero's welcome from the Legislative Assembly of Rio de Janeiro.

Affirming his years of contribution towards the development of Brazil's offshore and marine industry and the local community, the Assembly bestowed CB Choo with the prestigious Tiradentes Medal and the status of Honourary Citizen of the City of Rio de Janeiro.

The Tiradentes Medal was struck in honour of Brazil's national hero Tiradentes Joaquim José da Silva Xavier. Tiradentes died in the 18th century as a martyr in Brazil's course of independence from Portugal.

This medal is by far the most important accolade conferred by the Legislative Assembly of Rio de Janeiro.

It is awarded to people from all walks, including but not limited to politicians, scientists,

artistes and entrepreneurs, who have contributed significantly to the progress of Brazil and its people. CB Choo joins the likes of Venezuelan President Hugo Chavez and many other distinguished patrons of Brazil.

## Amazing Race

Keppel Ambassador Thomas Pang, GM, Corporate Development, Keppel O&M concluded his Clipper journey with bear hugs from his wife and peers when Uniquely Singapore sailed into Rio. Thomas shares with *OffshoreMarine* on his unforgettable journey.

### This is the first time the Clipper Race has a stopover in Rio. How did you feel being the first Keppel Ambassador to be part of this?

I felt proud to be a Keppelite. It must have been a tremendous effort to have brought the Clipper Race to Rio. With Rio hosting the 2016 Olympics, the arrival of the Clipper fleet would have given the Brazilians a taste of what they can expect hosting the Olympic sailing events. It was wonderful to have met fellow Keppelites and to finally visit our operations in Brazil since I had worked on some Brazilian projects.

### What did you miss most during the Race?

In no particular order, I missed my privacy, freshwater showers, a dry bed, walking without getting



An extremely tanned Thomas (second row, right) posing with Keppel Group senior management and key Brazilian representatives at the flag-off to Cape Town, South Africa

thrown around and being up to date on world news.

### How do you intend to share your Clipper experience with others?

I had shared my Clipper adventures with fellow Keppelites in Brazil. That whetted my appetite to share with more Keppelites any opportunity I can when I return to Singapore. I also intend to share my experiences via Facebook to reach out to my network of friends outside of Keppel on this extraordinary adventure.

### Are you able to apply your sailing experience at work?

Sailing is like business. You have

to set a goal (same for business), understand the weather and the elements (market forecast), decide on a course (strategy), select a sail (use the right tools), continue to trim the sails (refine the execution) and keep the team be it in the office or the crew, motivated. I have learnt to appreciate the smaller things in life that are often taken for granted.

### Would you encourage your colleagues to join the Clipper Race?

I definitely recommend others to apply for Clipper 11-12 Race. It's truly an eye opening experience!



Awards garnered by projects such as Riviera Cove attest to Keppel Land's building excellence in Singapore and overseas

### **BREAKING GROUND IN TIANJIN ECO-CITY**

Keppel Group commenced work on its 35.4-ha site in the Start-Up Area of the Sino-Singapore Tianjin Eco-City on 27 November 2009.

It is the first foreign property developer to push ahead with the construction of eco-homes in a masterplanned integrated precinct.

### **A COOL BUY**

Keppel Integrated Engineering has acquired the entire share capital of First DCS Pte Ltd (First DCS) from SLI Holdings Pte Ltd,

a wholly-owned subsidiary of JTC Corporation, for a cash consideration of approximately \$88 million.

As the largest district cooling systems provider in Singapore, First DCS currently services Changi Business Park, Biopolis@one-north and Woodlands Wafer Fab Park with a total contracted capacity exceeding 35,000 refrigeration tonnes.

### **WINNING ASSETS**

The Golden Dragon Awards

2009 saw three Keppel Land developments named as proud winners – The Estella and Riviera Cove in Ho Chi Minh City, and Sedona Suites in Hanoi.

Jointly conferred by Vietnam's Ministry of Planning & Investment and reputed business publications, Vietnam Economic Times and Thoi Bao Kinh Te, the Awards recognise foreign direct investment enterprises for product and service excellence as well as their contribution to the country's economy.

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# Keppel O&M clinches three new contracts



Keppel Shipyard previously completed the conversion of FPSO Lewek Arunothai for EOC, which is now successfully deployed in Thailand

Keppel O&M has secured three new contracts through its subsidiaries.

The contracts are for a Floating Production Storage and Offloading (FPSO) vessel conversion, a Derrick Lay Barge completion and the life extension of a semisubmersible rig.

CH Tong, CEO of Keppel O&M said, "As market sentiments liven up, we are receiving more enquiries with some new contracts materialising in the last quarter of this year.

"Including these latest contracts, for the year-to-date, the Keppel O&M Group has secured contracts close to S\$1.8 billion. Overall, the new contracts have helped to replenish our orderbook as we end a peak year of deliveries."

The first contract was secured by Keppel Shipyard for the conversion

of an FPSO from Emas Offshore Construction and Production (EOCP), a subsidiary of EOC Limited (EOC).

This is the second project Keppel Shipyard will undertake for EOCP, having completed the conversion of Lewek Arunothai, an FPSO for deployment in Thailand.

Lim Kwee Keong, CEO of EOC, said, "We are looking forward to another successful project with Keppel Shipyard. They have proven to be a reliable partner to execute our projects successfully and safely. We are glad to have Keppel Shipyard's expertise as we grow a fleet of premium FPSOs in the region."

Separately, Keppel Shipyard has also secured a job to complete the NorCE Endeavour, a Derrick Lay Barge for NorCE Offshore.

Expected to be completed in 2Q 2010, the 146 metre-long barge will incorporate a modern 1100 metric tonne ringer crane and advanced pipe-lay equipment, which will enable it to operate in a wide range of offshore marine construction activities in the region.

Meanwhile, Keppel FELS has won a job to repair and perform life extension works on MG Hulme Jr, a deepwater semisubmersible rig for Transocean Ltd.

Work on the rig is expected to commence in 1Q 2010 when the vessel arrives from West Africa. The scope involves the refurbishment of existing accommodation, installation of a new accommodation block and helideck, various machinery overhauls and inspections.

The vessel will be deployed to operate in Libya for Gazprom with delivery expected in 2Q 2010.

"We would like to thank our customers EOC, NorCE Offshore and Transocean for their continued support and trust in Keppel O&M and our subsidiaries. As we continue to pursue new jobs, we remain committed to deliver on our promises and be the global industry's preferred offshore and marine partner," CH Tong said.