

# OFFSHORE MARINE

Builder of distinction

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## EXPANDING MARKET LEADERSHIP

Giving productivity a boost

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Keppel O&M is fortifying its strategic presence in Brazil and Azerbaijan with new yards. Together with partners, such as SOCAR in Azerbaijan (above), Keppel O&M will utilise its technology, know-how, and world-class operational standards to capture opportunities from these growing markets.

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# Expanding market leadership

In line with its *Near Market, Near Customer* strategy, Keppel O&M is expanding its facilities and services in Brazil and the Caspian region.



Keppel Singmarine Brasil complements Keppel O&M's existing BrasFELS yard in Angra dos Reis in offering comprehensive solutions for Brazil's offshore oil and gas sector

## NEW YARD IN BRAZIL

Keppel O&M, through its wholly-owned Brazilian subsidiary, Navegantes Maritime Construction and Services, has entered into an agreement with Brazil's TWB Group to acquire the Estaleiro TWB shipyard in Navegantes, Santa Catarina.

Keppel Singmarine will operate the 7.6-hectare shipyard, which has a 300-metre long waterfront and is equipped with a slipway, pipe and hull shops and an outfitting quay. Keppel O&M's total investment in the yard, including further capital expenditure to upgrade and modernise the facility, will be about US\$50 million.

YY Chow, President (The Americas) of Keppel O&M, said, "Keppel Singmarine Brasil is set to offer a one-stop solution for customised vessels, backed by our proven proprietary technology and engineering capabilities.

"Petrobras has announced plans to charter some 147 locally-built offshore support vessels over the next five years, with at least 70% of the work on each newbuild to be carried out within the country. Through this new facility, we will bring our specialised shipbuilding expertise to help satisfy the demand for robust support vessels at the doorsteps of Brazil's offshore field development market."

Keppel Singmarine Brasil will focus on the construction of offshore support vessels such as Anchor Handling Tug/Supply vessels, platform supply vessels, oil recovery support vessels and harbour tugs, among others. It will also be equipped to undertake the fabrication of offshore modules, which will support the execution of major projects at Keppel's BrasFELS yard, in Angra dos Reis.

The new yard is expected to be operational by the second half of 2010. At full capacity, it is estimated to be able to complete an average of eight vessels a year.

*Continues on page 16...*

# New contracts from repeat customers

In the first quarter of this year, contracts were secured for two Floating Production Storage and Offloading (FPSO) conversions, a livestock carrier conversion and repair and modification works for two semisubmersibles (semi).

CH Tong, CEO of Keppel O&M, said, "We would like to thank our customers for their continued support and trust in Keppel O&M and our subsidiaries.

"Our *Near Market, Near Customer* strategy not only allows us to respond swiftly to the needs of our global customers, it also enables us to gain a keen understanding of the offshore environments in which they operate. This intimate knowledge of their operational challenges enables us to add value to the projects entrusted to us.

"The fact that our customers keep returning to Keppel yards across the world, reinforces our strategy and position as their preferred global solutions partner."

## FPSO CONVERSIONS

Keppel Shipyard is converting a Very Large Crude Carrier (VLCC), M/T Bauhinia, into an FPSO facility for the SBM Group. The FPSO is being developed for an oil field offshore Equatorial Guinea.

Work on the FPSO is expected to commence in the second quarter of 2010 and completed in the third quarter of 2011. Keppel Shipyard's



The delivery of a succession of projects, such as FPSO Capixaba (above), and the recent winning of the M/T Bauhinia FPSO conversion demonstrates the strong partnership Keppel Shipyard has with its customers

scope includes refurbishment and life extension works as well as the installation and integration of topside modules.

Tony Mace, CEO of SBM Offshore, said, "Having worked with Keppel Shipyard since 2001, we remain impressed with its ability to deliver projects safely and to our satisfaction. This is true of the three projects it delivered to us recently (see page 8) and I am confident that this FPSO will match the same high standards."

Keppel Shipyard will also be undertaking the upgrading and conversion of a Suezmax tanker into an FPSO for repeat customer Bumi Armada Berhad.

Work on the FPSO is expected to commence in the second quarter of 2010. The work scope includes refurbishment and life extension works as well as fabrication and installation of turret support structure and topside modules.

When completed in the second quarter of 2011, the facility will be able to produce up to 45,000 barrels of oil per day and store 1,000,000 barrels of oil. It is bound for deployment in offshore Vietnam for Hoang Long Joint Operating Company.

Hassan Basma, ED and CEO of Bumi Armada Berhad, said, "We are pleased to work with Keppel again as it's a true partnership



Keppel Shipyard is converting a vehicle carrier into a livestock carrier for repeat customer Hijazi & Ghosheh Group



Back for repair and upgrading works, Stena Clyde was previously at Keppel FELS for Special Periodic Survey works in 2000 and 2005

built on trust; a collaboration that focuses on quality and timely delivery.”

**LIVESTOCK CARRIER CONVERSION**

A vehicle carrier, Merlion Ace, will be given a new purpose when converted into a livestock carrier by Keppel Shipyard.

The conversion is being carried out for Merlion Ace Compania Naviera S.A, an affiliate of Hijazi & Ghosheh Group, a world-leading livestock carrier owner and operator.

To be renamed Ghena, the vessel is targeted for completion in the third quarter of 2010, and will ply the route between Australia and the Middle East.

Issam Hijazi, President of Hijazi & Ghosheh Group, said, “We are glad to be working with Keppel Shipyard again following the conversion of the Maysora livestock carrier in 2001.

“We had a rewarding experience with the team who has lived up to the reliability and exceptional service that Keppel Shipyard is well-regarded for. We look forward to another outstanding job on the Ghena livestock carrier, and more projects together.”

**SEMISUBMERSIBLE MODIFICATIONS**

Keppel FELS and Keppel Verolme have each secured a semi repair and modification project from Stena Drilling.

Keppel FELS is performing repairs and major upgrading works on the drilling semi Stena Clyde. The work scope includes a Special Periodic Survey, main engine replacements and a mooring winch system upgrade.

Stena Clyde will return to its deployment in Perth, Australia for Apache Corporation, upon its expected completion in June 2010.

Over in the Netherlands, Keppel Verolme is carrying out repair and maintenance works on the drilling semi, Stena Don. Work on Stena Don is scheduled for completion in the second quarter of 2010.

# Designed to deliver

Keppel FELS hands over 3rd Maersk DSS™ 21 semi, Maersk Deliverer, 43 days early.



DSS™ Series rigs are highly cost effective exploration units capable of drilling down 10,000 m (30,000 ft) wells and operating at a water depth of 3,000 m (10,000 ft). The Series also features a dynamic positioning system, with the ability to attach to a pre-laid mooring system

Christened Maersk Deliverer at the yard on 16 May 2010, the early delivery of the state-of-the-art semisubmersible (semi) to Maersk Drilling (Maersk) garnered Keppel FELS, the world's leading rig designer and builder, a bonus of US\$400,000.

Claus V. Hemmingsen, CEO of Maersk Drilling said, "The Maersk-Keppel partnership, spanning decades, has achieved considerable milestones.

"Now, with the addition of Maersk Deepwater Semi III, our high-specification DSS™ 21 rig fleet which is in the league of some of the world's most advanced deepwater rigs will help position

Maersk Drilling as the leading offshore solutions provider in the industry.

"We are pleased with the consistently excellent performance Keppel FELS has demonstrated to continuously improve construction of the series of rigs."

CH Tong, CEO of Keppel O&M, added, "We are proud to be Maersk's preferred partner for its fleet expansion plans. The success of this series of semis is built upon our long term partnership with thought-leading operators such as Maersk, who have provided the necessary platforms for our technologies to gain market ascendance.

"At Keppel O&M, we are focused on providing quality solutions to meet the emerging challenges in deeper waters and harsher environments. We will continue to grow and leverage our technology capabilities to better serve our customers' needs."

Keppel O&M is the only shipyard group in the world to have its own suite of proprietary deepwater rig designs. Jointly developed and owned by the Keppel's Deepwater Technology Group and Marine Structure Consultants, the DSS™ Series of deepwater rigs are designed for maximum uptime with reduced emissions and discharges.

"The demand for modern drilling rigs has increased over the past years concurrently with the growing technical challenges we are faced with in the drilling industry. Our ultra deepwater semisubmersibles are well equipped to meet this demand," Hemmingsen added.

DSS™ Series rigs are particularly well suited to drill deep and complicated wells in areas such as offshore West Africa, Brazil, the Gulf of Mexico and Southeast Asia, and may be further customised to meet the unique challenges of each location.

# Double celebrations

## Milestones for Keppel AmFELS.



Management of Keppel AmFELS and Perforadora Central celebrated the safe, on time and within budget delivery of jackup, Tuxpan

First, a naming, followed by a launch – two outstanding achievements marked an eventful week for Keppel AmFELS in Brownsville, Texas, as the yard celebrated the realisation of the hard work put in by all its employees.

Built to the LeTourneau Super 116E design, the jackup drilling rig was christened Tuxpan on 4 March 2010. It was completed on time and within budget for Perforadora Central SA de CV, a Mexican oil and gas driller.

Since construction started in November 2007, Keppel AmFELS has maintained a perfect safety record on the project with zero lost-time incidents over 1.5 million man-hours worked. Tuxpan is the second rig Keppel AmFELS

has built for Perforadora Central. The first one was delivered in 2004.

Two days later, another key event was realised when the Rowan EXL Super 116E No. 2, the second of four jackup drilling rigs that Keppel AmFELS is building for Rowan Drilling Company, was launched into the waters.

The launch marks the completion of the main hull. Further assembly work will be carried out onboard, including the installation of the legs, equipment, living accommodations, helipad and other components.

Presently, all four Rowan 116E jack-ups under construction at Keppel AmFELS are progressing well.

The accomplishment of these milestones cements Keppel AmFELS's long-standing partnership with its customers.

Tan Geok Seng, President & CEO of Keppel AmFELS, said, "With more than two decades of experience operating in Brownsville, Keppel AmFELS is well-positioned and prepared to serve the offshore needs arising from the Gulf of Mexico, one of the world's most important oil and gas markets.

"We are proud to have built strong relationships with our repeat customers who are key players in this region. With our robust construction capabilities and commitment to deliver on time and within budget, we seek to be the preferred solutions partner in this region."

# Steering a steady course

Keppel O&M buzzed with activity as its various shipyards celebrated multiple construction and delivery milestones.

## TRIPLE DELIVERIES FOR SBM

Floating Production Storage and Offloading (FPSO) vessel P-57 and Capixaba as well as an internal turret for the Skarv FPSO were all completed without lost-time incidents for long-time customer Single Buoy Moorings (SBM).

FPSO Capixaba departed Keppel Shipyard on 10 February, nine days ahead of schedule. The vessel was modified and upgraded for operation in the Cachalote field in offshore Brazil.

FPSO P-57, which was delivered in the same month underwent hull and marine conversion in Singapore and will have its remaining work of topsides installation and integration completed at Keppel O&M's BrasFELS yard in Brazil.

Later that month, Keppel Shipyard successfully loaded out the final two components of the Skarv internal turret.

The internal turret, the largest in the world in terms of its rated mooring loads, is being supplied by SBM to their client for its Skarv FPSO unit, which will operate offshore Norway once completed.

## GOLAR FREEZE SAILS OUT

Keppel Shipyard has successfully completed its third consecutive



Keppel Shipyard augments its growing track record for FSRU conversions with the completion of Golar Freeze

Floating Storage and Re-gasification Unit (FSRU) conversion for Golar LNG without lost-time incidents. Golar Freeze set sail from the yard on 17 April.

Commenting on the relationship with Keppel, Arvid Nygaard, Site Manager of Golar LNG, shared, "We are pleased to receive our third FSRU from Keppel Shipyard. The successful integration of the FSRU technology is testament to the good partnership we have with Keppel Shipyard and this has been manifested in the timely delivery and exemplary safety record of the vessel."

Chartered by Dubai Supply Authority, the FSRU will be permanently moored alongside a purpose-built jetty within the existing Jebel Ali port in Dubai.

## LAYING STRONG FOUNDATIONS

On 9 March 2010, Keppel Singmarine laid the keel of H358, a 65-tonne bollard pull twin-screw Azimuth Stern Drive tugboat for repeat customer, Smit International. This tugboat is built to proprietary MTD 3265T design developed in-house by Keppel's Marine Technology Development.

On the same day, Keppel Singmarine and Seaways International Pte Ltd celebrated the strike steel ceremony for H349, a bollard-pull 100 tonne Anchor Handling Tug (AHT) vessel at Prime Steelkit.

The functions of this multi-tasking AHT involve ocean towing, tanker handling and berthing, firefighting as well as oil recovery.



## Global rig repair specialist

Customers worldwide send their rigs to Singapore's shores for repair services at Keppel FELS, renowned for being safe, quick and cost-effective. Additionally, the company's value-added service includes an elite Flying Squad that can be deployed globally to undertake repairs of offshore rigs of all sorts and sizes.

### GOING THE DISTANCE

Songa Offshore's semisubmersible (semi) drilling unit, Songa Venus, travelled from Australia to Singapore for a Special Periodic Survey.

The repairs on Songa Venus were completed on 15 March after 45 days, enabling the rig to return to work in offshore Australia in the shortest possible time.

### SAILING TO WORK

Seadrill's jackup drilling rig, West Triton, has also set sail from

Keppel FELS on 15 March 2010 after undergoing repairs and upgrades.

In its reinvigorated condition, the jackup is headed to Myanmar for a three-month stint before proceeding to Indonesia for a two to three years assignment.

### FLYING TO THE RESCUE

Keppel FELS's elite Flying Squad was recently lauded for its exceptional 18-day offshore repair work onboard Diamond Offshore's jackup rig, Ocean Heritage,

conducted in March at Cairo, Egypt.

Paul J. Agnew, Senior Project Engineer at Diamond Offshore, commended the Flying Squad, "I would like to express my appreciation and thanks to the Keppel FELS crew under the supervision of Sim Kong Peng for their excellent performance in the repairs to the damaged leg braces on the Ocean Heritage. Their knowledge and expertise were instrumental to the satisfactory completion of the project."



Ocean Heritage returns to operational mode following timely repairs by Keppel FELS's offshore repair specialists, the Flying Squad



Drawn by Keppel FELS's expertise and reliability in repair work, customers like Songa Offshore bring their rigs to the Singapore yard despite the costs and time involved in long-distance towage

# Cutting edge in Qatar



Qatar Emiri Naval Force's Staff Brigadier (Sea) Mohammed bin Nasser Al-Mohannadi (left), Yong Chee Min (second from left), Muhammad Ghannam (second from right), and HE Chief of Staff of the Qatari Armed Forces, Major General Hamad bin Ali Al-Attiyah (right) at DIMDEX 2010

With Qatar rapidly expanding its natural gas facilities as the world's leading exporter of Liquefied Natural Gas (LNG), the Nakilat-Keppel Offshore & Marine (Nakilat-Keppel O&M) shipyard is poised to contribute to the country's aim of being a recognised centre of excellence in ship building, shiprepair and conversion.

## SERVICING THE QATARI FLEET

Nakilat-Keppel O&M has signed a Memorandum of Understanding (MOU) with the Qatari Navy on 30 March to provide repair services to its military and auxiliary fleet.

These repairs will be carried out at Nakilat-Keppel O&M in the Port of Ras Laffan, Qatar. Expected to be operational in the fourth quarter of 2010, Nakilat-Keppel O&M is the largest shiprepair yard in the country.

Muhammad Ghannam, Nakilat's MD and Chairman of Nakilat-Keppel O&M said, "The MOU with the Qatari Navy is not only an important milestone in the development and growth of Nakilat-Keppel O&M, it is also a key initiative for the State of Qatar and moves forward the vision and foresight of His Highness Sheikh Hamad bin Khalifa Al-Thani to open Qatar's doors to direct foreign investment."

The signing took place during the second Doha International Maritime Defence Exhibition and Conference (DIMDEX) 2010.

## SUPPORTING THE GAS INDUSTRY

Qatar's massive investment in its natural gas facilities will drive the growth of the region's marine industry, including marine support services.

To harness the growth opportunities, International Enterprise Singapore organised a business mission for 14 Singapore-based marine support services companies with Keppel O&M as a host for the visiting delegation.

Yong Chee Min, CEO of Nakilat-Keppel O&M, said, "Our JV with Nakilat marks the first partnership for Keppel O&M in Qatar and is in line with our strategy to be near our customers and markets. This collaboration not only adds value to Qatar's growing oil and gas sector, it also plays a role in developing its marine and supporting services industries.

"We are pleased to see keen interest from Singapore-based companies to provide marine support services to Nakilat-Keppel O&M. I am certain that we can leverage our competencies to provide value-added solutions to the region."

## STRENGTHENING BONDS

Deepening Keppel's ties in Doha, Qatar, senior management met with several important figures in March 2010.

The Keppel delegation comprised Keppel Corporation Chairman Dr Lee Boon Yang, Keppel Corporation CEO, CB Choo, Keppel O&M CEO, CH Tong, and Yong Chee Min.



Keppel management with HE Abdullah bin Hamad Al-Attiyah, Deputy Prime Minister and Minister of Energy and Industry of Qatar (centre). Standing alongside are Muhammad Ghannam, Nakilat-Keppel O&M Chairman, as well as Umej Bhatia, Charge d'affaires a.i. from the Singapore Embassy in Qatar

At Qatargas, the delegation was welcomed by Faisal M. Al Suwaidi, Vice Chairman and CEO, who reaffirmed Qatargas' commitment to establish a strong partnership with Keppel.

In a meeting with Qatar's Deputy Prime Minister and Minister of Energy and Industry, HE Abdullah bin Hamad Al-Attiyah, the Deputy Premier spoke about his recent tour of Nakilat-Keppel O&M's yard and expressed that he was pleased with its progress.

The delegation visited the Nakilat-Keppel O&M yard, as well as Keppel Integrated Engineering's Domestic Solid Waste Management Centre and Doha North Sewage Treatment Plant.



Nakilat-Keppel O&M gears up for operations in Qatar

# Deep sea winner



West Pelaut has won the Shell Platform Rig of the Year award for the third time in the past five years

Keppel FELS-built semisubmersible drilling tender (SSDT), West Pelaut, was a repeat winner of the Shell Platform Rig of the Year Award for the third time.

She is the first of seven KFELS SSDTs designed and built by Keppel FELS for Seadrill since 1994.

Developed by Keppel O&M's Deepwater Technology Group (DTG), the KFELS SSDT™ design has revolutionised the way in which drilling tenders work, allowing them to be deployed next to deepwater floating platforms for the first time. Conventional drilling tenders can only be deployed next to fixed platforms, most of which are located in shallow waters.

Aziz Merchant, GM (Group Design & Engineering) of Keppel O&M and Head of DTG, said, "We are proud that West Pelaut has been voted the Shell Platform Rig of the Year once again. This award motivates us to further improve our current designs to support sustainable offshore exploration and production operations."

The groundbreaking KFELS SSDT™, with its enhanced capabilities, can operate and maintain station keeping in deep waters of up to 5,000 ft alongside Spars and Tension Leg Platforms.

With this technology breakthrough, West Pelaut became the first drilling tender in the world to operate in deep waters

of about 1,000 metres in the West Seno field, offshore Indonesia in 2003, and to be deployed against a Spar platform in the Kikeh Deepwater Field, offshore Malaysia in 2008.

The KFELS SSDT™ has established a proven track record for strong operational performance over the past 15 years. This design was also conferred the ASEAN Outstanding Engineering Achievement Award in 2009 by the Institution of Engineers Singapore.

It has contributed significantly to environmental protection, as well as the safety and well-being of operators involved with offshore platform development drilling.

# Platforms for progressive partnerships



(Standing, from left) Norwegian Minister of Trade and Industry, Trond Giske, and CEO of Keppel Corporation, CB Choo, witnessed the signing of the MOU. Seated are Egil Rensvik (left), Principal Research Manager of Marintek and Charles Foo (right), Centre Director of KOMtech

Keppel Offshore & Marine Technology Centre (KOMtech) is actively engaging leading institutes and specialists to develop innovative solutions for the industry.

Committed to help meet the challenges of climate change, KOMtech signed a Memorandum of Understanding (MOU) with Nanyang Technological University

(NTU) on 18 February 2010 to explore collaborations under its newly-launched programme for research into greener shipping technologies.

NTU's Maritime Clean Energy Research Programme (MCERP), which will provide research funding, encourages applicants submitting proposals to work closely with the relevant maritime

companies. The MOU will enable KOMtech to tap on platforms to develop technology relevant to Keppel's business.

On another occasion, KOMtech and the Norwegian Marine Technology Research Institute (Marintek) signed an MOU to collaborate on the development of technologies and training opportunities.

KOMtech and Marintek will study the design and operation of ships in harsh environments, like the Arctic region, marine operations related to the installation of renewable energy production units like offshore wind turbines, and the storage and handling of liquefied nitrogen gas onboard vessels.

On the training front, the two parties will work together to provide industrial attachments at Marintek for KOMtech's employees.

On the collaboration, CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, said, "Keppel strives to improve its research and development efforts and innovate new ideas. This is to ensure that we continue to offer value proposition to our customers that is second to none."

# A superior delivery

Keppel FELS has delivered Floatel Superior, the first of two newbuild semisubmersible (semi) accommodation rigs for Floatel International, 43 days early, safely and within budget.

Peter Jacobsson, CEO of Floatel International, said, "Floatel Superior is the first North Sea accommodation rig built in over 20 years, and it is certainly a vessel that the market has been waiting for. Her technical features have been thoroughly engineered by the experienced Keppel FELS team, and surpass the current industry standards in many aspects.

"The early delivery of Floatel Superior marks an excellent start to her operational track record, and speaks volumes of Keppel FELS's world class capabilities. We are confident that she will raise the bar for offshore accommodation standards in the oil and gas industry as soon as she arrives on location."

She departed Singapore for Bayu Undan in the Timor Sea to commence her maiden charter contract.

Floatel Superior is built to the DSS™ 20NS design, developed and owned by Keppel's Deepwater Technology Group and Marine Structure Consultants.

Proud of the Keppel teams behind Floatel Superior, CH Tong, CEO of Keppel O&M, said, "Her successful delivery is a true mark of Keppel FELS's design and engineering



All smiles, (from left) Nils Erik Flink, COO of Floatel International, Nils Mårtensson, Technical Manager of Floatel International, Wong Kok Seng, ED of Keppel FELS, and Marlin Khiew, Project Manager at Keppel FELS, concludes the delivery of Floatel Superior



Floatel Superior – First and only newbuild floatel for the Norwegian sector in more than 20 years

capabilities and shipyard experience put into action. These core competencies place us in an ever ready position to respond and

adapt our solutions to meet the needs and challenges of customers worldwide."

## High life on the high seas



The 100-seater cinema allows the floatel's occupants to watch old favourites or catch-up on blockbusters



Office spaces are spacious and outfitted with modern communication facilities



Floatel Superior houses 440 single-bed cabins, each with an ensuite bathroom, a wall-mounted television set, a desk and a telephone as well as internet connection

For Tommy Rommersjo, who has been at sea for over 37 years and who has worked on cargo ships and cruise liners, the integrated live-work-and-play amenities on Floatel Superior could not be better.

Floatel Superior is a semisubmersible accommodation rig or, as its name suggests, a floating hotel. During certain phases of an offshore project, manpower at the offshore-site has to be enlarged; accommodation rigs serve as cost-effective housing for these additional oil and gas personnel.

The floatel's 440 single-man cabins are more comfortable than what other similar vessels offer, says Rommersjo, Floatel Superior's manager. He explains, "Usually there could be two or even four men in the same cabin. Two men would have to wait outside the room while the other two changed."

Suitable for operations in diverse environments, from the tropics to the freezing North Sea, and amid 30-metre high waves, Floatel Superior also comprises offices, a cinema, an internet café, multiple recreational and games rooms, a hospital, a gymnasium and even saunas.



For seasoned seaman, Tommy Rommersjo, Floatel Superior's manager, the Floatel is a comfortable 'home'

Meals onboard can be quite the sumptuous spread. Currently managed by Australian Daniel Suryanto, previously a chef in a top-notch hotel, the galley cooks up a storm daily with the new facilities.

Suryanto said that the equipment onboard is better than that of a hotel's. "A defrosting room thaws food in a quick 30 minutes, rather than taking hours," he elaborated, "and no more peeling potatoes by hand as I have an automatic peeler here."

At the moment, there are about 25 accommodation rigs in the world and their average age is 25 years. Floatel Superior's sister rig, Floatel Reliance, is on track for delivery in the second half of this year.

Continues from page 3.

# Opening a new chapter in Baku



Azerbaijani President, HE Ilham Aliyev (extreme left) and Singapore's Minister for Foreign Affairs, George Yeo groundbreak the new SOCAR-Keppel Shipyard



The SOCAR-Keppel-AIC team sharing a triumphant moment after the successful groundbreaking ceremony

**"The new SOCAR-Keppel Shipyard is envisaged to be on par with the best shipbuilding facilities in the world. I am confident that with Keppel's proven expertise and operational track record, we will continue to create new benchmarks for the oil and gas industry."**

*Rovnag Abdullayev  
President  
SOCAR*

Further to its new yard in Brazil, Keppel O&M is fortifying its presence in South America and the Caspian Region to widen its offerings in these key markets.

In the Caspian Region, Keppel O&M joined hands with State Oil Company of Azerbaijan Republic (SOCAR) and Azerbaijan Investment Company (AIC) to develop and manage a new 52-ha shipbuilding and shiprepair facility in Baku, Azerbaijan.

The new yard's ground breaking was officiated by President of Azerbaijan, HE Ilham Aliyev in the presence of George Yeo, Singapore's Foreign Affairs Minister.

The new SOCAR-Keppel Shipyard will be developed over a period of two to three years with an

investment of US\$386 million. The joint venture agreement will be signed with Keppel O&M taking a 10% share of the yard, and SOCAR and AIC the other 65% and 25% respectively.

The new yard is designed to undertake construction of a variety of vessels ranging from offshore support vessels to tankers, as well as ship repair and conversion.

Speaking at the yard's groundbreaking ceremony, Singapore's Minister for Foreign Affairs, George Yeo, said, "A new chapter has opened in our bilateral relationship. There is great potential for the strengthening of economic and other ties.

"The oil and gas sector is an obvious area of greater cooperation. Although Singapore





The new US\$386 million SOCAR-Keppel Shipyard will be managed and operated by Keppel O&M

has no oil or gas, we have a strong chemicals and maritime support cluster, with many Singapore-based companies supporting the operation of large oil and gas companies. The development of this new SOCAR-Keppel shipyard supports the Oil Strategy promulgated by President Heydar Aliyev."

Minister Yeo is the first Singaporean Minister to visit Azerbaijan since both countries established diplomatic relations 16 years ago.

Rovnag Abdullayev, President of SOCAR, said, "We are deeply honoured to have the President of Azerbaijan HE Ilham Aliyev officiate the groundbreaking of our new shipyard, and Singapore's Minister for Foreign Affairs

Mr George Yeo witness this significant event.

"SOCAR and Keppel came together 13 years ago to form the Caspian Shipyard Company in Baku. Together, we delivered many landmark projects in the Caspian Sea, and brought Azerbaijan's oil and gas sector to new heights.

"The new SOCAR-Keppel Shipyard is envisaged to be on par with the best shipbuilding facilities in the world. I am confident that with Keppel's proven expertise and operational track record, we will continue to create new benchmarks for the oil and gas industry."

Strategically located along the East-West energy corridor of the Caspian Sea region, the new yard

will be critical in helping to meet the growing needs of the local oil industry.

CH Tong, CEO of Keppel O&M, said, "We are pleased to strengthen our win-win partnership with SOCAR through the development of the new SOCAR-Keppel Shipyard.

"This latest venture reinforces Keppel O&M's *Near Market, Near Customer* strategy, and will place us in pole position to capture opportunities from the growth of the Caspian region. We are confident of servicing the unique requirements of this market."

Spanning a 1,630-metre waterfront, the yard, when completed, will be able to undertake 80 to 100 repairs and conversions per year and is estimated to achieve an average annual steel throughput of 25,000 tons when operating at full capacity.

"In addition to providing local content to support the industry's growth, we will also continue to support Azerbaijan through the offering of employment, training and skills development and apprenticeship schemes. When fully operational, our new yard will create employment opportunities for some 2,000 people," CH Tong added.

# Boosting productivity

In his Budget 2010 address to the Parliament, Singapore Finance Minister Tharman Shanmugaratnam emphasised the need for Singapore to increase productivity and innovation. He highlighted Keppel O&M as a company "where productivity is now a way of life."

Through infrastructure improvements, innovations and training programmes, Keppel O&M has made solid achievements in productivity through the years.

Keppel FELS increased its production capacity to deliver a record-setting 13 rigs in 2009, compared to six rigs in 2007. Keppel FELS was able to double its rig output with minimal capital expenditure through improving its construction methodology.

Wong Fook Seng, GM (Planning and Control) at Keppel FELS, said, "By using new manufacturing concepts, detailed production planning and getting all our people involved in brainstorming for continuous innovations, improvement in work processes has meant improvement in productivity for every vocation in the yard."

## IMPROVING INFRASTRUCTURE

The introduction of a new Integrated IT Supply Chain Management system at Keppel FELS has enabled all stakeholders to capture timely information from the source to the end product, matching demand and supply, as well as both quantity and time period.

At Keppel Shipyard, the completion

of a semi-automated pipe fabrication workshop has seen the average productivity index for pipe fabrication improved substantially by 45% since operations began in September 2009.

Previously, it would have taken two workers about an hour to cut and grind pipes. This has now been reduced to some 10 minutes with a Computer Numerically Controlled cutting machine. This process also reduces the need for grinding.

In addition, the availability of 21 cranes in the pipe shop facilitates the efficient shifting of pipes. It also drastically reduces the manual handling of pipes and minimises workers' hands being exposed to hazards.

Burt Loh, GM (Operations) at



Wong Fook Seng (centre), GM of Planning and Control, Keppel FELS, explains how even a simple idea can significantly help improve productivity. The pipe-dispenser which shortens the time taken to transfer pipes arose from the idea of straw dispensers. (Photo courtesy of NTUC media)

Keppel Shipyard (Benoi) said, “The semi-automated pipe shop not only improves our productivity but also enables us to perform more complicated jobs.”

To boost capacity and productivity of its facilities, Keppel Singmarine replaced its existing 100-tonne gantry crane with a new 250-tonne new gantry crane in early 2009.

It also acquired a new 270-tonne transporter to transfer the hull blocks within the yard and widened its slipway from 40 metres to 70 metres to accommodate larger and more sophisticated specialised vessels.

The productivity of hull erection has significantly improved with the 250-tonne gantry crane and the 270-tonne transporter as bigger hull blocks can now be erected.

**IMPLEMENTING INNOVATIONS**

Helping to generate many resource-saving ideas is Keppel O&M’s annual Innovation and Quality Circles (iQC) Convention. It is a platform that encourages employees from across the shipyards to come forward with solutions and showcase their creative ideas. Many of the teams go on to compete and win awards at the National iQC Conventions.

One such innovation is the introduction of a bar-coding system which realised cost-savings of more than \$700,000 per year.

Implementing an integrated information management platform and using a handheld bar-coding machine have increased the timeliness, accuracy, transparency and accessibility of information captured.

Another successful innovation is the Miracle Trolley, which uses air pressure to lift weights of up to 12 tonnes. This is particularly useful



The semi-automated pipe shop has boosted productivity of pipe fabrication by 45% at Keppel Shipyard



The 250-tonne gantry crane has improved productivity at Keppel Singmarine significantly since it commenced operations in February last year

*Continues on page 20...*

for objects which cannot be easily accessed or carried up by a crane. Being small and manoeuvrable, the trolley is able to access such objects and lift them, halving the man-hours it would have taken using a crane.

Pipe fitters using another in-house innovation, in the form of a pipe dispenser, have shortened the time taken to transfer pipes by 40%. Previously, without the pipe dispenser, it would take about three people 30 minutes to retrieve a pipe. All it takes now is one person 12 minutes to do it.

The award-winning Super Mould Die from Keppel Shipyard reduces over 70% of the time needed to straighten T-beams and fabricate fairlead roller caps simply by

modifying the existing hydraulic pressing machine which functions as a die and mould.

Safety is also a vital aspect of productivity innovation. Keppel Singmarine had two of their safety innovations recognised at the 12th Workplace Safety and Health Innovations in the Marine Industry Convention on 27 August 2009.

One such innovation, the Safe Ship Launcher, holds onto a vessel safely until all the keel blocks are removed for vessel launching. With this launcher, there is no need for manual transfer of the vessel load to the launching skids.

Numerous projects presented at the conventions have contributed directly to savings of several

millions a year. With a majority of the innovations made from left-over project materials in the yard, the innovations not only enhance productivity but also incurred minimal expenditure.

To foster a culture of innovation to improve efficiency at the workplace, Keppel FELS's Quality Productivity Improvement Team tracks and analyses trends in productivity performance while Keppel Shipyard's Innovation Club was formed to create a network for employees to share and improve on one another's ideas. These platforms, coupled with the enthusiasm and ingenuity of Keppel's employees, will help propel the company to greater productivity improvements year-on-year.



Keppel O&M's Innovation Month encourages employees to come up with solutions by thinking out of the box

# Encouraging energy efficiency



At KOMtech, two photovoltaic (PV) power plants were installed on its rooftop to convert solar power into electricity

For Keppel, improving productivity also means reducing energy consumption.

Taking the lead, Keppel FELS was amongst 49 Founding Partners which pledged to drive energy efficiency in Singapore via the Energy Efficiency National Partnership (EENP) programme.

Launched on 29 April 2010 by the National Environment Agency (NEA), Energy Market Authority (EMA) and Economic Development Board (EDB), the voluntary public-private sector initiative aims to help companies adopt energy productivity improvement projects at the organisational level to cut energy wastage.

CH Tong, CEO of Keppel O&M said, "We are always looking for ways to enhance energy efficiency in our operations. By doing so, we have been able to become more cost-

effective and add greater value to our business, at the same time reduce our carbon footprint.

"We are very enthusiastic about being a Founding Partner of EENP, to help advance Singapore's sustainable development blueprint as well as to step up our continuous efforts to adopt best practices."

The partnership prepares these companies for the Energy Conservation Act, to be introduced in 2013.

The manufacturing industry, with sectors like petroleum refining, petrochemical, electronics and pharmaceuticals, accounts for almost 60% of total energy consumption and has the potential to maintain economic competitiveness by adopting energy efficient solutions.

## Energy pledge

EENP partners can look forward to preferential rates for EENP learning events and benefit from National Environment Agency (NEA) incentive schemes, such as the Grant for Energy Efficient Technologies.

They will have opportunities to network and take part in benchmarking studies with peers, workshops and seminars.

Recognition will be given to companies that have implemented excellent energy management practices and achieved substantial savings as a result.

Partners are also encouraged to share among themselves energy goals as well as performance indicators for their energy efficient improvement plans and projects, so as to promote best practices.

# Banking on Offshore



The 7th Keppel Offshore & Marine Lecture provided food for thought for the designing and financing of commercially-viable and market-relevant offshore and marine solutions

The Keppel O&M Lecture series seeks to inspire study and research into offshore and marine technologies.

Held at National University of Singapore on 12 March 2010, the lecture took an interesting departure from the topics of design, engineering and research developments to take a closer look at the financial solutions supporting the offshore and marine sector.

CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, put it aptly when he said, "This is a timely topic, especially in the context of the recent financial meltdown and credit crunch which have affected

financing for offshore and marine projects and exploration and production moving into deeper waters and harsher environments, where substantial investments are needed."

Guest speaker for the lecture and Global Head of Structured Finance of ING Commercial Banking, Christopher Steane, shared on the offshore oil and gas market's financing needs and funding sources as well as project variables which financiers look at.

Addressing the factors influencing the financing of assets at pre-completion stage, Steane, said, "New technology results in construction risks.

Lack of experience makes it difficult to envisage all the possible problems so the time to build is difficult to assess.

"Even for proven technology, we care a lot about which yard is doing the construction. Variations in competence are huge.

"A good track-record and overall experience from yard is a huge mitigant. We also prefer a fixed price turn-key contract.

"Of course, this shifts risks to the yard and that risk has to be paid for, but for lenders, this is money well-spent."

ING is the financier for Gold Star and Alpha Star, semisubmersible rigs built to Keppel FELS's proprietary DSS™38 design for Brazilian operator, Queiroz Galvão Óleo e Gás.

The Keppel O&M Lecture is jointly organised by National University of Singapore and Keppel under the auspices of the Keppel Professorship in Ocean, Offshore and Marine Technology.

The Keppel Professorship was introduced in 2002 to build a repository of knowledge and enhance Singapore's position as an international maritime centre.

# Drilling in safety principles

Partnership is a cornerstone of Keppel's safety philosophy, especially in a multicultural environment. Together with its clients, workers and contractors, Keppel develops and refines its safety management systems.

This was shared in a presentation by CH Tong, CEO of Keppel O&M, at the International Association of Drilling Contractors (IADC) Drilling HSE Asia Pacific Conference & Exhibition held over 23 and 24 March 2010. Supportive of efforts to raise the industry's safety standards, Keppel O&M was a Platinum Sponsor of the event.

Having worked with many of the drilling contractors and oil majors, CH Tong highlighted how Keppel's safety journey has progressed with the help of their customers who hail from all over the world.



Safety champions from Keppel O&M help promote safety at the IADC Drilling HSE Asia Pacific 2010 Conference & Exhibition

The strategies and the co-operation of stakeholders have enabled Keppel O&M to achieve and sustain good health, safety and environment (HSE) records despite a significant increase in workload and manpower over the last few years. Indeed, its accident frequency rate has steadily improved from 1.73 to 0.11 accidents per million man-hours worked from 2005 to 2009.

Joining CH Tong at the conference were other Keppel management and safety personnel, including Wong Kok Seng, ED of Keppel FELS, and Abu Bakar, Senior GM (Operations) at Keppel Shipyard and Chairman of the Keppel Group's Inter-Business Unit Safety Committee. Senior HSE Manager at Keppel FELS, Derek Sim, was part of a panel which discussed shipyard safety for rig construction.

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## Snuffing out fire hazards

Keppel Batangas kick started its participation in the Philippines' annual nationwide Fire Prevention Month with a colourful motorcade. Going around the yard and town, the motorcade helped to spread awareness on this year's campaign theme, "Sustaining Fire Prevention through Active Community Participation".

In addition, the yard's Health, Safety and Environment department conducted a series of activities in line with the campaign's message.

Mr Poh Leong Kok, Senior VP of Keppel Batangas Shipyard said, "It is incumbent upon everyone in the yard to be aware of fire hazards.

Activities of such campaigns should be supported and participated in, so that we will be more aware of the importance of fire safety tops to avoid loss of lives and properties."

# A slim intervention

KOMtech's slim drillship design packs a formidable punch literally, as a lightweight, safe and versatile drilling alternative to its bulkier, traditional rivals as the optimal solution to overcome challenges in deepwater subsea wellhead intervention operations.

Deepwater oil and gas fields are currently developed using wet (subsea) trees or dry (surface) trees, or a combination of both. Once the reservoir characteristics have been determined, the evaluation of development options for a new field is usually concentrated around the type of floating production vessel required to develop the field.

In the last decade, deepwater field development has evolved with the successful commercialisation and popularisation of subsea wellheads. Today, there are a few thousand subsea wellheads installed worldwide, mainly in the UK and Norwegian waters, West African waters, Brazilian waters and Gulf of Mexico. These subsea wells, as with all machinery, need to be monitored, maintained and repaired to optimise production.

KOMtech's slim drillship design is engineered to optimally, economically and effectively perform such well maintenance, intervention and light drilling operations. The ship is capable of carrying out wireline (WL) operations, coiled tubing (CT) operations, slim hole drilling such as Through Tubing Rotary Drilling (TTRD), workover operations and tophole drilling.

Working closely with KOMtech and Keppel FELS, Gavin Humphreys from Stena Drilling who created and designed the slim drillship concept said, "This slim drillship design offers distinct advantages against traditional drillships through application of slim hole drilling technologies, including Managed Pressure Drilling and Expandables to enable the drilling of slim exploration and development subsea wells and well interventions such as TTRD,



KOMtech's slim drillship is a safe, economical and technologically-advanced solution for re-entry into existing subsea wells



which currently are only in use on land rigs or jackups and fixed production platforms offshore.”

Equipped with dynamic positioning (DP) 2, the vessel and its equipment are developed to undertake drilling and well intervention work, utilising a high pressure riser, for the maximum well depth of 22,500 ft below rotary table in water depths no deeper than 7500ft. It can be configured for deeper wells in harsher environments such as North Sea, Gulf of Mexico, Brazil and West Africa.

Added Dr Foo Kok Seng, Deputy

Centre Director of KOMtech, “At 145m long, it is a fraction of the average size of a high-performance deepwater drillship used in worldwide exploration and is optimised for drilling clusters of subsea wells. We are confident in the commercial viability of this slim drillship and its efficiency in the exploration and production value-chain.”

The key innovation is the use of a mast to carry the top drive and hook load, enabling easy access for intervention equipment to be transferred directly to the well centre.

A main characteristic of this slim drillship is its slim high pressure (HP) riser, allowing intervention tools access into the well containing hydrocarbons, eliminating the need to fill the well with drilling mud. This HP riser enables the drillship to drill through sections of old wells that have been depleted and which cannot be accessed by traditional drillship. The slim drillship is also equipped with machinery and tools enabling it to drill new hole sections inside the existing well, for example long horizontal extensions, by use of slim jointed drillpipe that can enter the well inside its production tubing.

## Conceptual design features

The drillship is designed to an overall length of 145m, breadth of 28m and main deck height of 13.4m with the following features:

- The drill floor is designed to have a large open area for intervention/third party equipment, as well as direct access to well centre line for the coil from CT skids and for the wire from WL skids. It is also designed for improved logistics of feeding riser joints, drilling joints and casing/ tubing joints to the well centre, from two sides (forward or aft).
- The bridge and accommodation area can house 120 men while the helideck and lifeboats are located at the forward for a clearer view and easy access.
- Engine room with six diesel engines is located at the aft under the main deck to allow for a better forward hull shape and reduce noise in the accommodation area.
- A long poop deck for riser storage and electric equipment (switchboard rooms and transformers) as well as operational offices and workshops.
- Two aft azimuth thrusters, one forward azimuth thruster and two tunnel thrusters, for compliance with DP-2 requirements.
- Drilling moonpool located at the centre of the ship for maximum stability and sea-keeping performance.
- A drilling mast instead of an enclosed derrick in order to give easy access to the well centre for intervention equipment from the drill floor or on the poop deck.
- Drill pipes and casing tubular storage located at the front end of the moonpool. The elevated pipedeck is on the same elevation as the drill floor in order to allow standard horizontal tubular feeding equipment.
- Blow Out Preventer and subsea module handling system arranged along starboard side of the moonpool to maximise area available in the front and aft of the moonpool for tubular storage and third party equipment storage.

# Boon to knowledge sharing

Reaching out within and beyond the industry, Keppel O&M regularly hosts local and international visitors to facilitate knowledge exchange.



Leo Yip, Chairman of Economic Development Board (second from left) and his delegation toured KOMtech's laboratory to better understand the R&D



Mexican Ambassador to Singapore, HE Antonio Guillermo Villegas Villalobos (second from right) and Francisco Bautista Plancarte, Trade Commissioner of Mexico to Singapore (second from left), hosted by Keppel O&M management

## TECHNOLOGY SHOWCASE

Led by Leo Yip, Chairman of Economic Development Board (EDB), a delegation from EDB paid a visit to Keppel Offshore & Marine Technology Centre (KOMtech).

Through the presentations, these delegates were given a good overview of KOMtech, Keppel O&M's vessel products such as

deepwater rigs and drillships as well as the global research and development trends in offshore and marine industry.

The delegation also toured the KOMtech facilities and held discussions with senior management from across Keppel O&M on possible opportunities for collaboration.

## VISITORS FROM THE MEXICAN GULF

Another special group of guests hosted at Keppel O&M's premises was led by HE Antonio Guillermo Villegas Villalobos, Ambassador of Mexico to Singapore. Joining him were Armando Lopez Trujillo, Second Secretary and Francisco Bautista Plancarte, Trade Commissioner.

They were warmly welcomed by top management of the Keppel Group, headed by CB Choo and had an overview of the comprehensive facilities and well-designed layout of the Group's Singapore yards.

## LESSONS ON TAKING IT GLOBAL

A group of 25 master students and two professors from Norwegian University of Science and Technology's Master of Engineering Science and ICT programme were given an overview of Keppel O&M's key businesses and geographical span on 22 March 2010.

Besides touring the yards, an engaging dialogue session was held where the students raised queries regarding the company's processes, working culture and how Keppel O&M overcame different challenges in its metamorphosis into a global company.

# Rewarding ties

## HONOURING A STALWART

In recognition of his significant contributions and commitment to enhancing the business relations and bilateral trade between Norway and Singapore, CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, was



CB Choo received the NBAS award from the Minister of Trade & Industry of Norway, Trond Giske at the annual Norwegian Seafood Dinner

conferred the inaugural Norwegian Business Association Singapore (NBAS) Award.

CB Choo received the NBAS award from the Minister of Trade & Industry of Norway, HE Trond Giske at the annual Norwegian Seafood Dinner on 5 March 2010.

CB Choo shared, "Over the years, NBAS played an important role in representing the Norwegian business community here and strengthening its connections with Singapore.

"I am very honoured that you have chosen me to receive the inaugural NBAS award. On behalf of Singapore's business community, I thank you for affirming our winning partnership with Norwegian companies."



Governor Leonel Arcangelo Pavan (right) giving CB Choo a warm welcome

## BRAZILIAN RELATIONS

CB Choo, Singapore's Non-Resident Ambassador to Brazil, paid a friendly visit to Mr Leonel Arcangelo Pavan, Governor of Santa Catarina, in mid-April 2010. Also attended by other Brazilian state officials, the meeting helped foster stronger Singapore-Brazil relations.

# New members onboard

Keppel O&M has added two new members to its Board of Directors where they join other business leaders to steer the Company towards sustainable growth.

They are Tan Ek Kia, Chairman of the Board of Citygas Pte. Ltd and Po'ad Bin Shaik Abu Bakar Mattar,

an independent director of Hong Leong Finance Limited and Tiger Airways Holdings Limited.

Tan is a seasoned professional in the oil and gas and petrochemicals businesses, with more than 33 years of extensive experience.

Mattar is a member of the Institute of Certified Public Accountants of Singapore. He also sits on other boards in both the private and public sectors. He was formerly the Senior Partner of Deloitte & Touche.

# Keeping watch at Earth Hour

Leveraging its collective strength and extensive network, Keppel Group of companies rallied efforts in Singapore and overseas for Earth Hour on 27 March 2010.

For one hour from 8.30pm to 9.30pm that Saturday evening, it was lights out at Keppel O&M's various dormitories and all its yards in Singapore.

In his note to Keppelites on the Group's participation in Earth Hour, CB Choo, CEO of Keppel Corporation, said, "With the heightened sense of the threat of climate change, all of us are

challenged to hand over to the next generation a more developed, yet greener and cleaner world.

"Group capabilities and cohesiveness have been Keppel's defining traits and by rallying together in this green cause, we can make a difference. More importantly, we will do so without compromising on safety and security."

During Earth Hour, seven Keppel yards in Singapore powered down non-essential lights. Joining their efforts were Keppel O&M Technology Centre and workers

staying at Acacia Lodge, Juniper Lodge and Lantana Lodge.

In the period leading up to Earth Hour, Keppel O&M's employees in Singapore and overseas received emails sharing on energy-saving tips and initiatives. Subcontractors and vendors were also invited to participate in this joint effort.

Wayne Siek, Senior HSE Officer at Keppel FELS, who was part of the team that organised Keppel O&M's initiatives for Earth Hour 2010, said, "Participating in Earth Hour has made me realise how fragile our earth is and the importance of protecting and conserving its resources.

"We believe that every Keppel employee can make a difference, not just during this hour, but in sustained efforts, to make this planet a better place for future generations."

Earth Hour started in 2007 in Sydney, Australia when 2.2 million homes and businesses turned their lights off for one hour in united front for climate change and since, the initiative has become a global sustainability movement.

A record of 128 countries and territories joined the global display of action for Earth Hour 2010, making it the world's largest ever global climate change initiative.



Smiles lit up at Acacia Lodge, Juniper Lodge and Lantana Lodge as everyone pitches in for Earth Hour

# The Brazilian beat

Queen of bossa nova, Bebel Gilberto, mesmerised audiences at a concert in Singapore presented by Keppel O&M.



Deepening connections at the pre-concert reception were CH Tong (left), CEO of Keppel O&M and Louis Chow (right), GM (Commercial – Conversion) of Keppel Shipyard, with guests Darren Ahrens, Turret and Mooring System Delivery Manager, BP, and his wife

It is the third time Keppel O&M has helped bring the queen of bossa nova to Singapore as the presenting sponsor.

After her two sold-out performances in Singapore in 2005 and 2007, Bebel Gilberto returned for an encore with songs from her new album, 'All In One', performed on 19 April 2010 at the Esplanade Concert Hall.

The New York-born, Grammy Award-nominated songbird is known worldwide for embodying the heart and soul of Brazilian music. Her signature style fuses the relaxing Brazilian beat with

sophisticated, subtle electronica, all at once fluid, romantic and full of life.

Attended by some 70 management representatives, clients and business associates, the event allowed Keppel O&M to deepen customer relationships and promote an appreciation and understanding of Brazilian arts and culture amongst local audiences.

Keppel O&M's collaboration with Brazil began three decades ago, through shiprepair and ship conversion work for Brazilian shipowners. The win-win relationship paved the way for

more partnerships and today, the company has demonstrated its commitment to grow with the Brazilian market.

Coincidentally, the concert came on the back of Keppel O&M's announcement to set up a new yard in Brazil (see page 3) – Keppel Singmarine Brasil – to offer a one-stop solution for customised vessels.

With strong local presence, established networks and a consistent track record, Keppel O&M is poised to continue supporting and growing with its valued Brazilian stakeholders.



Minister for Finance Tharman Shanmugaratnam and members of the JV consortium including Kevin Wong, Group CEO of Keppel Land (to Minister's right), 'stamp' their mark of confidence in MBFC on the commemorative plaque, which will form part of Tower Two

### SUSTAINING GOOD PERFORMANCE

Most of Keppel Corporation's key lines for the first quarter of 2010 recorded healthy double-digit growth.

The Company achieved an attributable profit of \$322 million for the first quarter of 2010. This was \$37 million or 13% higher than the corresponding period in 2009. EPS rose by 13% to 20.2 cents. EVA of \$240 million was \$29 million higher than first quarter 2009. Annualised ROE was 20.3%.

### ASIA'S BEST BUSINESS ADDRESS TAKES SHAPE

On 13 April 2010, Marina Bay Financial Centre (MBFC) celebrated the topping out of its 50-storey Tower Two.

Tharman Shanmugaratnam, Minister for Finance, was Guest-of-Honour at the topping out ceremony. In his address, he shared that landmark properties, such as MBFC, will support Singapore's growth as a financial centre over the next era of its economic development.

MBFC comprises three commercial towers, which together offer nearly three million square feet of prime Grade A office space. It also includes two residential towers, the fully-sold Marina Bay Residences and soon-to-be launched Marina Bay Suites, as well as the Marina Bay Link Mall which has already garnered 65% pre-commitment.

### DIVERSIFYING LNG SOURCE

Keppel Merlimau Cogen (KMC) inked conditional agreements to buy liquefied natural gas (LNG) from the BG Group during the groundbreaking ceremony for Singapore's first LNG terminal.

S Iswaran, Senior Minister of State, Ministry of Trade and Industry, and Ministry of Education, officiated at the ceremony held on 31 March 2010.

KMC was one of six companies that entered into long-term gas purchase contracts with the BG Group for an initial tranche of around 1.5 million tonnes per annum. This LNG supply allows KMC to diversify its energy source.

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# Keppel bags first offshore wind energy market contract

Keppel Verolme and its consortium partner AREVA have secured a contract from Wetfeet Offshore Windenergy GmbH to build a Mobile Offshore Application Barge (MOAB) for a new offshore wind farm in the German Zone of the North Sea.

The project will be deployed at the Global Tech I Wind Farm that is being built and operated by Wetfeet Offshore. Utilising the patent-pending solution of AREVA Offshore Platform, the MOAB will host the transformers and high voltage switchgears to collect and convert electricity generated by the wind turbines for delivery to Germany's national power grid.

Harold Linssen, MD of Keppel Verolme in The Netherlands, said, "We are very pleased to participate in the prestigious Global Tech I wind farm. This latest contract marks Keppel's successful entry into the offshore wind energy business, and affirms Wetfeet Offshore's confidence in our ability with AREVA to deliver the best solution for the job.

"Germany aims to raise its percentage of electricity generated from renewable energy sources to at least 20% by 2020 and 50% by 2050. A major element in achieving this target is to further develop the capacity of its offshore wind sector."

When fully operational in 2013, the Global Tech I wind farm will be able to generate some 1.4 billion kilowatthours (kWh) of electrical energy annually, supplying one million people with clean energy. It is also expected to help cut some 1.2 million tons of carbon dioxide emissions each year.

MOAB will provide permanent accommodation for up to 32 personnel operating the wind farm. By serving both energy transmission and wind farm maintenance functions, MOAB helps to enhance the operational reliability and efficiency of Global Tech I, contributing overall to a greener environment.

Keppel Verolme will carry out the detailed engineering and construction work on this new platform designed by Overdick GmbH & Co, while AREVA designs, fabricates and installs the transformers and other high voltage equipment. The vessel is targeted for completion in the fourth quarter of 2011.

"Our parent company, Keppel O&M's core competencies in technology and project execution allow us to respond swiftly with innovative and cost-effective solutions to meet the offshore industry's demand for new products and services.

"Given our proximity to the



This Mobile Offshore Application Barge will be built for a new offshore wind farm in the German Exclusive Economic Zone in the North Sea

European and North Sea markets, and synergy with 20 global yards, Keppel Verolme is in a strategic position to add value to the emerging offshore wind industry. The MOAB project will certainly augment our strong track record and expertise in delivering a variety of advanced offshore rigs and vessels on time, within budget and without incidents," Linssen added.