

# OFFSHORE MARINE

Builder of distinction

March – April 2011

MICA (P) 153/04/2008



## SECURING INTERNATIONAL RIG ORDERS

**N-KOM drydocks  
first LNG vessel**

7th KFELS SSdT delivered



# CONTENTS

SEAFOX 5 secures first charter	3
More jackup orders in tow	4
Choice solutions partner	8
Another impressive conversion	10
Seventh solid delivery	14
Brilliant deliveries	20
Clockwork construction	22
Ideas for growth	27
Keeping employees in the pink	30
An hour for the Earth	31

## CUSTOMER FOCUS

Premium partnership	13
---------------------	----

## SPECIAL REPORT

N-KOM drydocks first LNG vessel	16
---------------------------------	----

## CENTRESPREAD

Making waves at Maritime Week	18
-------------------------------	----

## TECHNOLOGY & INNOVATION

Solutions for waste water treatment	24
-------------------------------------	----

## PEOPLE PROFILE

Golden recollection	29
---------------------	----



Keppel O&M participated in this year's Singapore Maritime Week led by the Maritime and Port Authority through a series of conferences, exhibitions and events from 10 to 15 April 2011.

In particular, the Group was a sponsor and exhibitor of the highly anticipated biennial Sea Asia Conference. This three-day conference drew over 12,000 visitors and 340 maritime and shipping businesses from 40 countries.

## EDITORIAL BOARD

### EDITORIAL ADVISOR

Tong Chong Heong

### EDITOR

Lai Ching Chuan

### ASSISTANT EDITOR

Ivana Chua

### SUB EDITOR

Huang Cui Yan

### COMMITTEE MEMBERS

Michael Chia, Nelson Yeo, Wong Kok Seng, Hoe Eng Hock, Aziz Merchant, Dr Foo Kok Seng, Dr Lee Chay Hoon, David Low, Lynette Goh, Vett Ramos, Ching You Yi, Chin Sze Kiun, Alan I. Claveria, Betty Mok, Lucienne de Jong, Linda Mercado, Diana Chan, Roy Tan.

OffshoreMarine is a bi-monthly publication of Keppel Offshore & Marine Ltd

50 Gul Road, Singapore 629351

Tel: +65 6863 7200

Fax: +65 6261 7719 / 6265 1927

Company registration no. 199900642R

# SEAFOX 5 secures first charter



SEAFOX 5 has secured its first offshore wind farm charter in the North Sea worth over EUR 35 million

Keppel FELS' offshore wind turbine installation vessel has won its first charter contract from Aarsleff Bilfinger Berger (ABJV) Dan Tysk, worth over EUR 35 million. The vessel, SEAFOX 5, is jointly built and owned through a 75/25 joint venture company between Keppel FELS and Seafox Group, a leading provider of offshore accommodation and multi-support service jack ups.

Built to Keppel's proprietary KFELS MPSEP (Multi-Purpose Self-Elevating Platform) concept, SEAFOX 5 is targeted for completion in 2H 2012. It will be used to install offshore wind foundations in the 288 megawatt (MW) DanTysk windfarm, developed by Europe's leading energy company Vattenfall and Stadtwerke München, in the German sector of the North Sea. The customer ABJV DanTysk has an option to extend the charter by another 90 days.

KS Wong, MD of Keppel FELS, said, "This new charter contract is a significant milestone in establishing Keppel's footprint as a value-added solutions provider for the emerging offshore wind energy sector. I would like to thank our partner, Seafox, whose rich operating expertise was instrumental in the winning of our first charter in the North Sea."

Upon completion, SEAFOX 5 will be managed and operated by Workfox BV, the leading operator of multi-support service jackups in the Southern North Sea, and a member of the Seafox Group.

Keesjan Cordia, MD of Seafox Contractors BV, said, "Developers and operators of offshore wind farms place high emphasis on the reliability of delivery and operations. As such, the collective strengths and track records of the Seafox-Keppel alliance, augmented by an outstanding vessel concept,

have launched us forward in sealing the charter contract with ABJV DanTysk.

"SEAFOX 5's ability to withstand harsh offshore environmental conditions all year round will be advantageous in this first charter where it is expected to work through winter in the North Sea. We look forward to meet ABJV DanTysk's expectations with the delivery of safe and uninterrupted operations as we fortify SEAFOX 5's track record."

The KFELS MPSEP, designed by Keppel's R&D arm, Offshore Technology Development, features an offshore pedestal crane with a 1,200-tonne lifting capacity, and a spacious deck in excess of 3,700 sm with a variable load of 7,000 MT.

# More jackup orders in tow



Keppel FELS has secured orders for ten KFELS B and Super B Class rigs in the past six months

Win-win partnerships have enabled Keppel O&M group to secure three rig orders from its global customers.

## **JASPER ORDERS SECOND KFELS JACKUP**

In April, Jasper Investments Limited (Jasper) has exercised its option with Keppel FELS to build a second KFELS B Class jackup rig for delivery in 1H 2013.

The single-rig option was given to Jasper when the customer ordered its first jackup from Keppel FELS in December 2010.

KS Wong, MD of Keppel FELS, said, "Including this latest contract from Jasper, we have secured 17 jackup rigs since November last year. Of these, 14 are proprietary Keppel designs. These include 10 KFELS B and Super B Class rigs.

"We are pleased that Jasper has reaffirmed its confidence in our proprietary technology and execution expertise by exercising the option for a second KFELS B Class jackup rig. We look forward to deliver both its world class rigs safely, on time and within budget."

Similar to its first jackup rig, Jasper's latest unit will be able to operate in water depths of 400 feet (ft), drill 30,000 ft deep and accommodate 150 men.

Geoffrey Yeoh, ED of Jasper, said, "With rapidly increasing demand in the market for safer and more capable rigs, this is the opportune





Senior management of Japan Drilling Company and Keppel set in motion the construction of a new KFELS Super B Class rig

time to expand our fleet and increase our solutions for the offshore industry. We are pleased to be able to build another rig to the highly-rated KFELS B Class design with Keppel FELS.

“Teaming up with the world’s leading rig designer and builder enables us to offer reliable, safe and high quality products to meet the most stringent requirements of the market. Building our first KFELS B Class rigs at Keppel FELS is an important step for Jasper in growing our presence in the offshore drilling market.”

**JDC ORDERS KFELS SUPER B CLASS**

In March, Keppel FELS in Singapore was awarded a contract from Japan Drilling Company (JDC) to build a KFELS Super B Class jackup rig.

Slated for delivery in 1Q 2013, JDC’s rig will be its first newbuild

rig order in six years and Keppel FELS’ first for the company.

KS Wong added, “JDC has been very specific with the requirements from their new jackup building programme. We are honoured that they have selected our proven KFELS Super B Class design to be customised to their needs. This is a win-win partnership that demonstrates the strength of our proprietary designs.”

“The KFELS Super B class rig has a highly successful operating track record in many parts of the world. And as with all our projects, we aim to deliver this latest unit safely, on time and within budget to JDC.”

Yuichiro Ichikawa, Representative Director and Senior Managing Executive Officer of JDC, said, “We plan to further expand our business operations globally and

strengthen our offshore fleet to address the diverse needs of our customers. The utilisation of our existing rigs is currently at an optimal level and we believe that the KFELS Super B class will be an important addition to boost our capabilities and offerings to customers.”

“Through earlier repair projects, we have witnessed Keppel FELS’ deep commitment to quality, safety and delivery excellence. We are glad to have found a likeminded partner in Keppel, and look forward to working closely with them to complete an outstanding drilling unit that fits our exacting requirements.”

The KFELS Super B Class design is one of the world’s deepest drilling rigs with drilling depth of 35,000 ft. This rig’s leg structure is uniquely designed to provide

*Continues on page 6...*

Continued from page 5...

enhanced robustness for operations at 425 ft water depth. The rig is engineered to operate in high ambient temperatures and can accommodate 150 personnel onboard. To date, 33 KFELS B Class and Super B Class rigs have been delivered for operations in various parts of the world.

Keppel FELS previously completed two KFELS B Class jackup rigs for a JDC joint venture company with Qatar Petroleum, Gulf Drilling International Ltd. JDC had also previously sent its rigs, Hakuryu-5 and Hakuryu-3, for repair and maintenance at Keppel AmFELS and Keppel FELS respectively.

#### **REPEAT RIG FOR PERFORADORA CENTRAL**

Over in the US, its sister company, Keppel AmFELS LLC, has also won a contract from Mexico's Perforadora Central SA de CV (Perforadora Central) to build a LeTourneau Super 116E jackup rig.

Keppel AmFELS' repeat jackup rig for Perforadora Central is slated for delivery in 1Q 2013. Unlike the existing LeTourneau Super 116Es, this will be the first Super 116E newbuild to be further enhanced to provide for an additional 1,500 kips of elevated load. It will have leg lengths of 511 ft and the capability to drill wells up to 30,000 ft at a water depth of 375 ft.

Mexico is the world's sixth largest producer of oil and has the seventh largest natural gas



The new jackup rig for Perforadora Central will be based on the LeTourneau Super 116E design; Keppel AmFELS previously delivered Tuxpan, a LeTourneau Super 116E rig to Perforadora Central in 2010

reserve in the western hemisphere. PEMEX, Mexico's national oil company, has recently announced plans to invest approximately Ps. 286.3 billion (US\$23.6 billion) in 2011, more than 80% of which would be allocated to exploration and production activities.

GS Tan, President of Keppel AmFELS, said, "Keppel AmFELS has enjoyed a win-win partnership with Perforadora Central that dates back to 2002. Today, we are pleased to further strengthen our years of collaboration with a contract for our third newbuild jackup rig together.

"With a strategic presence at the

gateway of the Gulf of Mexico, Keppel AmFELS is in a prime position to serve this growing offshore sector and be the preferred solutions provider of drillers and operators in Mexico and the region."

In keeping with its tradition of safe, on-time and within-budget deliveries, Keppel AmFELS completed Tonalá, an ultra premium KFELS B Class jackup for Perforadora Central in 2004, followed by Tuxpan, a LeTourneau S116E rig in 2010.

Perforadora Central expressed, "With each successive project, Keppel AmFELS has proven its

expert project management and construction capabilities, as well as commitment to the highest standards of safety and quality.

"Our Tonalá and Tuxpan jackups are turning in excellent performances for PEMEX in Mexico. We are just as confident that our latest newbuild by Keppel AmFELS will be another exceptional product to boost our track record as the foremost provider of drilling solutions in Mexico."

Perforadora Central is a Mexican company providing offshore and onshore drilling service mainly for PEMEX.

---

## Experts in repairs

In a nod to Keppel's expertise in repairs and upgrading, customers have awarded new jobs to Keppel FELS Brasil.

The Company has secured contracts for the repair of two semisubmersible drilling rigs. The first is with Transocean UK Limited to carry out structural, piping, electrical and painting repairs on Falcon 100, which operates in the Campos Basin.

The second contract is from Pride Foramer S.A.S for repairs on the Pride Brazil. BrasFELS will replace 17 tons of pipes as well as install the sewage unit, helideck tie-down and backup trip tank. This is second time the rig is in BrasFELS for repairs.



With an established track record, BrasFELS is the yard of choice for repairs in the region such as the Falcon 100 from Transocean



# Choice solutions partner



Keppel Shipyard has built up a track record of delivering quality projects competitively and with high standards of safety

Keppel O&M, through its wholly-owned subsidiaries, Keppel Shipyard and Keppel Singmarine have clinched four marine orders from international customers over the past two months.

These entail building a new multi-purpose dive support construction vessel (DSCV) and a pipe laying vessel, converting a Floating, Storage and Offloading (FSO) vessel, as well as upgrading a Floating Production Storage and Offloading (FPSO) vessel.

Nelson Yeo, MD (Marine) of Keppel O&M, said, "These new contracts reflect the confidence of our customers in Keppel O&M group. We are proud of the solid partnerships built with faithful customers who turn to our yards worldwide for their fleet expansion and upgrading needs. "

Keppel Singmarine will build for SBM Offshore a prototype multi-purpose DSCV scheduled for delivery in 2Q 2013. This cutting-edge vessel combines capabilities



of diving support, subsea construction and anchor handling, and features a Dynamic Positioning (DP) III system.

The DSCV will be equipped with a fully integrated 12-men saturation diving system that enables divers to work safely down to a depth of 300 metres, and a 250 tone (t) crane to support subsea oilfield development. It will also feature a 200 t double drum winch, four chain lockers and a stern roller for anchor handling functions.

For the newbuild pipe laying vessel, Castorone, Keppel Shipyard will jointly execute this project with Keppel Singmarine. The work scope includes detailed

engineering, constructing marine systems and outfittings. This vessel is expected to be completed in middle of 2012.

The Company will also carry out the conversion of a FSO vessel for Bumi Armada. When completed in 2H 2011, the converted FSO vessel with storage capacity of 500,000 barrels of oil will be deployed on the Sepat oilfield (Block PM 313), located off the eastern coast of Peninsular Malaysia.

Hassan Basma, ED & CEO of Bumi Armada, said, "Working with Keppel is one of the partnerships which we have developed over the years of collaboration. One that is built on trust. The first

three projects which Keppel has undertaken for us were high quality vessels, delivered promptly and safely. We look forward to yet another FSO to complement our fleet here in Asia."

The third contract that Keppel Shipyard secured was a fast-track project for the upgrading of an FPSO vessel from Petrofac International (UAE) LLC, a subsidiary of Petrofac. Work has commenced in 1Q 2011. This FPSO facility will be able to handle both oil and gas production for an oil and gas field offshore Peninsular Malaysia.



Keppel Singmarine will build for SBM Offshore a prototype multi-purpose DSCV scheduled for delivery in 2Q 2013

# Another impressive conversion

No matter how complex the projects might be, vessel owners and operators can trust Keppel yards to provide consistently strong project management and execution.

On 15 April 2011, Keppel Shipyard completed one of Vietnam's largest Floating Production Storage Offloading (FPSO) vessel on time and without incidents.

Operated and managed by EMAS Production (EMAS), Lewek Emas is among Vietnam's largest FPSOs. The vessel has been chartered by Premier Oil Vietnam Offshore B.V. for the development of the Chim Sáo field off southern Vietnam for six years, with an option to extend by another six years. The FPSO charter contract is one of only seven signed worldwide in 2009, and is worth approximately US\$1 billion.

At the vessel's naming ceremony, Dr Lee Boon Yang, Chairman of Keppel Corporation said, "Keppel Shipyard is pleased to support EMAS with the conversion of its second FPSO, Lewek Emas. We provided a broad spectrum of FPSO conversion services for this project, including the engineering and fabrication of topsides modules.

"In spite of the tight schedules, Keppel and EMAS have worked closely together to ensure that the project works are carried out with the highest standards of quality. The successful conversion of



One of Vietnam's largest FPSOs, Lewek Emas, built by Keppel Shipyard





The managements of Keppel, EMAS and premier Oil celebrate a stellar partnership and the successful conversion of FPSO Lewek Emas

Lewek EMAS further enhances Keppel as the choice provider of reliable and value-added marine services."

The project to convert the 168,000 dwt Suezmax tanker into an FPSO was awarded to Keppel Shipyard in December 2009. Lewek Emas is the second project between Keppel and EMAS. Prior to this, Keppel Shipyard had completed the conversion of EMAS's first FPSO, Lewek Arunothai in 2008.

Lionel Lee, Group MD of EMAS, said, "Lewek EMAS is our second FPSO project with Keppel Shipyard with whom we have established a win-win partnership. This FPSO underscores EMAS' ability to deliver a diverse range of customised marine and offshore support solutions, from design and engineering to maintenance

and offshore installation. The addition of Lewek EMAS to our fleet propels EMAS Production to be one of Asia's leading FPSO operators."

The FPSO is expected to begin production in the second half of 2011, and will be able to produce up to 50,000 barrels of oil per day (bopd), and store about 680,000 barrels of oil on location.

Lim Kwee Keong, CEO of EMAS Production, added, "The strategic foresight and creative energy of our partners have turned the Lewek EMAS project into a reality. With their support, we are the first overseas company to secure an offshore Vietnam loan to finance the FPSO's conversion. Conversions are complex undertakings and to achieve this with over four million man-hours expended

safety incident-free is a great achievement. EMAS Production is confident of delivering top-notch performance with this FPSO in her upcoming assignment offshore Vietnam."

Keppel has been doing business in Vietnam for more than 25 years. The earliest project was the 1,200-tonne floating crane Hoang Sa delivered in 1984. A few years later, Keppel completed the country's first jackup rig, Tam Dao I. More recently, three modern jackup rigs were delivered to PV Drilling based on Keppel's proprietary KFELS B Class Design.

# A successful venture

In April, Keppel Singmarine delivered the transshipment barge Straits Venture, safely, on time and within budget to Straits Corporation meriting a bonus of \$5,000.

Richard Ong, Chairman and CEO of Straits Corporation said, "We are very optimistic about the prospects for this new crane barge and are already planning to build two more of such vessels within the next three years. I am greatly appreciative of the Keppel Singmarine team for their efficiency and on time delivery."

The vessel was named by Lady Sponsor, Cecilia Lew, the spouse of Richard Ong on 5 April 2011.

Hoe Eng Hock, ED of Keppel Singmarine shared, "We are glad to be a partner of Straits Corporation for its growth and expansion plans. We believe the long-term prospect in the offshore oil and gas industry remains bright and we look forward to participate and contribute to the success and growth of Straits Corporation."

Capable of loading 30,000 tonnes of coal per day, this barge is able to operate under challenging transshipment conditions at sea, and has the flexibility to support other marine operations for the oil and gas industry.



Keppel Singmarine was awarded a \$5,000 bonus for the incident-free construction of the Straits Venture coal transshipment barge



Managements of Keppel Singmarine and Straits Corporation celebrate the naming of the transshipment barge Straits Venture



# Premium partnership



Alf Ragnar Lovdal, Senior Vice President, Asia Pacific, Seadrill (left) seen with CH Tong, CEO of Keppel O&M

Established in 2005, Seadrill is an international offshore drilling contractor providing drilling and well services. The company's fleet includes harsh-environment semisubmersibles, jackups, shallow and deepwater tender rigs and deepwater drillships.

The largest owner and operator of self-erecting tender rigs, Seadrill recently took delivery of West Jaya, a semisubmersible drilling tender, built by Keppel FELS to the proven KFELS SSDT™ 3600E design.

A versatile and cost effective

alternative to the fixed or floating platform solution, West Jaya's deployment in Trinidad and Tobago will help grow the market in the Americas for semisubmersible tenders. Excluding West Jaya, Seadrill owns six semisubmersible tenders; these units are deployed in Southeast Asia and West Africa.

Prior to delivering West Jaya, Keppel FELS had completed for Seadrill on time and with good safety records the KFELS B Class rigs West Callisto and West Juno. Alf Ragnar Lovdal, Senior Vice President, Asia Pacific, Seadrill,

said, "We are optimistic about the market. If not, we would not risk building so many rigs."

Strong industry fundamentals coupled with growing demand for operational and safety requirements have spurred demand for units with high technical capabilities. Through newbuild orders and target acquisitions of modern assets, Seadrill maintains its modern fleet profile. It has the most modern fleet in the deepwater and premium jackup segment.

Lovdal said, "When the rigs become older, we sell them. For us, that's okay if somebody else wants to work with older rigs. We are focusing on our top quality service – that means having better technology and so on (in our rigs). That means it will be more expensive for our people to run the older and not so complicated rigs."

The issue of deepwater drilling permits in the Gulf of Mexico has gradually resumed over recent months, and the general prospect for deepwater solutions has been good.

Speaking on deepwater trends, Lovdal said, "If you go to the Gulf of Mexico, Brazil and West Africa, there is a high demand for deepwater rigs. If you look at Asia, we have two deepwater units and two to three may be in demand looking forward."

# Seventh solid delivery



West Jaya was delivered more than two weeks ahead of time, with a perfect safety record and within budget

Keppel FELS has delivered its seventh KFELS semisubmersible drilling tender (SSDT), West Jaya, to Seadrill. Completed two weeks ahead of schedule, the vessel was delivered with a perfect safety record and within budget.

The vessel was named at Keppel FELS on 19 March 2011 by Lady Sponsor Marie Chew, spouse of Marcus Chew, Director of Business Development at Seadrill.

Speaking at the ceremony, Alf C Thorkildsen, CEO of Seadrill, said, "West Jaya is the seventh consecutive on time, on budget semi-tender rig Keppel FELS has

been constructed for Seadrill in recent years. It is also the eighteenth rig to be delivered by Keppel FELS to Seadrill companies over the years. With West Jaya, Seadrill has now spent in excess of US\$ 2 billion with Keppel FELS."

West Jaya is built to Keppel's proven KFELS SSDT 3600E design, which was conferred the ASEAN outstanding engineering achievement award in December 2009 for its eco-friendly features and sustainable operations.

KS Wong, MD of Keppel FELS, added, "With the success of this design, Seadrill is today the

world leader in the drilling tender market. Keppel is proud to be a partner and also the foremost designer and builder of SSDTs, among other offshore mobile rigs.

"As a partner for solutions, we are always keen to team up with trend-setting customers to develop solutions for the offshore oil and gas industry. We look forward to continue supporting Seadrill in their fleet expansion and further strengthen their capabilities in the tender assist market."

West Jaya has enhanced mooring capabilities and features a crane





Celebrating the naming of West Jaya at Keppel FELS were Lady Sponsor Marie Chew (centre), Alf C Thorkildsen, CEO of Seadrill (left), Marcus Chew, Director of Business Development at Seadrill (second from left), CH Tong, CEO of Keppel O&M (second from right) and KS Wong, MD of Keppel FELS

Seadrill is in negotiation with BP Trinidad & Tobago LLC for West Jaya to work in the Immortelle field for two years.

The first unit in Seadrill’s KFELS SSDT fleet, West Pelaut, was designed and built by Keppel FELS in 1994, and was conferred the highly coveted Shell Platform Rig of the Year award in 2004, 2006 and 2008.

Developed by Keppel’s Deepwater Technology Group, the KFELS SSDT is an outstanding application of engineering and technological advancement, contributing significantly to environmental protection, as well as the safety of operators involved in offshore platform development drilling.

Designed to operate in deep waters of up to 5,000 feet, the purpose-built KFELS SSDT has revolutionised the way in which drilling tenders operate, allowing them to be deployed next to deepwater floating platforms.

With this latest delivery, Keppel FELS has successfully completed six KFELS B Class jackup rigs and seven KFELS SSDTs for Seadrill. This is in addition to the first Jackup, West Epsilon, built for Seadrill in 1993.

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

## Seadrill’s KFELS SSDT fleet

No.	Semisubmersible Drilling Tenders	Delivery
1.	West Pelaut	1994
2.	West Menang	1999
3.	West Alliance	2001
4.	West Setia	2004
5.	West Berani	2006
6.	West Vencedor	2009
7.	West Jaya	2011

capacity of 250 tonnes, four mud pumps and accommodation for 160 people.

Alf Ragnar Løvdal, Senior VP of Seadrill Asia Pacific, said, “The six previous tender rigs we built here have established themselves firmly in the market with a solid track record. In fact, we are seeing strong interest from oil companies for

the tender rig concept with a view towards new and higher capacity units.

“The success of the KFELS SSDT design is a result of the winning partnership we have built with Keppel FELS. With West Jaya, they have again delivered an exceptional product that will provide value-added solutions for our customers.”

# N-KOM ramps up operations



(From left) N-KOM seeks to establish itself as the region's new centre of excellence for offshore and marine services; Chartered by Qatargas, the LNG carrier Al Wakrah marks an important milestone in the partnership between N-KOM and MOL

Qatar's highly anticipated mega shipyard facility, Nakilat-Keppel Offshore & Marine (N-KOM), opened its doors last November to the keen reception of ship and rig owners in the Middle East.

Strategically located at the north-eastern tip of Qatar, in the Port of Ras Laffan, this 43-ha facility seeks to establish itself as the region's new centre of excellence for offshore and marine services.

Abu Bakar Mohd Nor, CEO of N-KOM, said, "We have been ramping up operations and taking in projects since N-KOM's inauguration late last year. With the VLCC-size drydocks now on-line, we are ready to help maintain and repair the fleet of our regional and international customers."

The yard has been kept busy with a range of projects over the last

months. Adding to its growing track record lately was the completion of special survey works on the liquefied natural gas (LNG) carrier, Simaisma.

Notably, Simaisma has become the first LNG carrier to be drydocked in Qatar. For the successful delivery of this project on time and without incidents on 19 April 2011, N-KOM was awarded a bonus by the vessel's manager and operator, Maran Gas Maritime.

Andreas Spertos, Technical Director of Maran Gas Maritime, said, "I am very pleased to offer N-KOM the delivery bonus. This Simaisma project demonstrates N-KOM's strong operational capabilities, and I am confident that they will continue to deliver value-added services to their customers."

Chartered by RasGas, the second largest LNG producer in the world,

Simaisma arrived at N-KOM on 29 March 2011, and was turned around in 20 days.

Other significant projects clinched recently by N-KOM include the contract to carry out critical repair, modification and upgrading works for Gulf Drilling International (GDI)'s offshore jackup rig, Al-Doha.

N-KOM is the only facility in Qatar capable of undertaking the full spectrum of works required for Al-Doha. The jackup is expected to depart in August 2011.

Abu Bakar, said, "With comprehensive facilities and expert project management capabilities, N-KOM offers customers a host of solutions in ship repair and conversion, rig repair, and the fabrication of onshore and offshore structures.





“Al Doha is N-KOM’s second jackup rig project with GDI, and we very much appreciate their endorsement. We will grow this partnership through collaborations on a wider range of projects.”

More recently, on 8 May 2011, the LNG carrier Al Wakrah docked at N-KOM for general repairs, overhaul, maintenance and inspection.

The vessel is operated and managed by MOL LNG Transport Co. Ltd, and chartered to Qatargas. Mitsui O.S.K. Lines, MOL LNG Transport Co. Ltd’s parent company entered into a Letter of Intent (LOI) for shipyard and drydocking services with N-KOM during its inauguration last year.

Shinji Ono, Fleet Manager of MOL LNG, said, “MOL signed a letter of intent (LOI) with N-KOM for shipyard and drydocking services



N-KOM recently clinched a contract with Gulf Drilling International to carry out critical repair, modification and upgrading works to its offshore jackup rig, Al-Doha

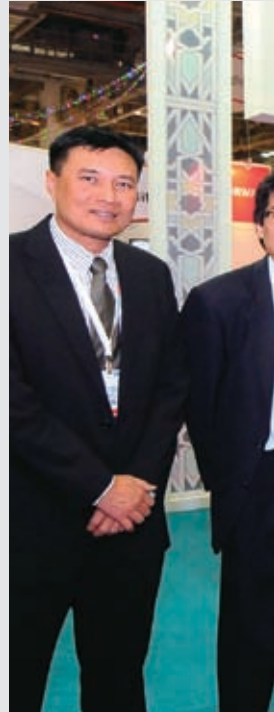
at its inauguration in November last year. Respecting this LOI, it is a great honor for us to have our Al Wakrah as the first Qatargas-chartered vessel to visit N-KOM. As our partnerships with Qatargas, N-KOM, and various support

systems in this country continues to grow, we will build up our confidence in N-KOM to maintain our fleet of premium LNG carriers, which continue to contribute to the safe and stable delivery of LNG cargos from Qatar.”

# Making waves at Maritime Week



Then Mr Raymond Lim, Minister for Transport and Second Minister for Foreign Affairs, and Michael Chia, MD (Offshore) of Keppel O&M and Chairman of Singapore Maritime Foundation, taking a closer look at a KFELS B Class jackup at the opening of Singapore Maritime Week



CH Tong, CEO of Keppel O&M (from right), government official

**“There is a lot of room still for owners, operators, shipyards and other equipment and service providers in Asia to learn from one another, and collaborate to raise the safety quotient and attractiveness of Asia’s maritime industry as a whole.”**

*CH Tong  
CEO of Keppel O&M*

The business community here made a strong presence at this year’s Singapore Maritime Week (SMW) led by the Maritime and Port Authority (MPA). *OffshoreMarine* highlights Keppel O&M’s participation in this major maritime event through a series of conferences, exhibitions and events from 10 to 15 April 2011.

### **SEA ASIA 2011**

The highly anticipated biennial Sea Asia Conference returned to SMW this year, bringing together business leaders and maritime professionals from diverse sectors of the global shipping industry.

Organised by Seatrade and the Singapore Maritime Foundation, the three-day convention, of which Keppel O&M was a sponsor and exhibitor, drew over 12,000 visitors and 340 maritime and shipping businesses from 40 countries.

Keppel O&M also hosted the official Sea Asia 2011 cocktail reception, forging and renewing ties with customers, industry partners and vendors. Meanwhile, the company’s joint venture yard in Qatar, Nakilat-Keppel Offshore & Marine, staged a sizeable presence as an exhibitor at this event held at Marina Bay Sands Expo and Convention Centre.





(centre) together with Singapore's Deputy Prime Minister, Mr Teo Chee Hean (fourth from left) and partners from Nakilat at Sea Asia 2011

A full day of the conference was set aside to discuss the developments, role and potential of offshore oil and gas in the Asian energy mix, and the engineering challenges faced as the industry moves into deeper waters and more demanding environments.

CH Tong, CEO of Keppel O&M, chaired a session entitled 'The interface with the Asian Maritime Sector' with five renowned industry panelists. The opportunities offshore energy creates for the Asian maritime sector, offshore technology evolution, support fleet demand, and the environmental and safety

challenges of offshore operations, were among several key areas discussed.

"With Singapore as the gateway to Asia, there are many opportunities for dialogue, meaningful exchange and to harness the collective strengths of the Asian maritime companies."

#### **INTERNATIONAL MARITIME AWARDS**

Continuous efforts to build up the industry's talent pool and raise the offshore and marine knowledge and technology capital in Singapore, Keppel O&M was bestowed the Excellence in

Training Development Award at the Singapore International Maritime Awards (IMA) on 12 April 2011.

The IMA recognises individuals and companies for their contributions to Singapore's development as a premier global hub port and international maritime centre. Held in conjunction with SMW 2011, and organised by MPA, the evening function was well-attended by luminaries from leading local and international maritime-related companies.

This occasion also saw the signing of the Maritime Singapore Green Pledge by ten industry members, including Keppel O&M. Witnessed by Mr Raymond Lim, Minister for Transport and Second Minister for Foreign Affairs, the signing brings together key maritime community members to champion clean and green shipping in Singapore.

Emphasising Keppel's strong focus on sustainable operations, KS Wong, MD of Keppel FELS said, "We are committed to energy conservation and environment protection. Our operations are infused with responsible business practices and through technology innovation, we incorporate unique features into our product designs to reduce environmental impact and promote safe and sustainable operations."

# Brilliant deliveries

Keppel O&M's yards continue exceed customer expectations with the safe, on-time and within-budget delivery of value-added products and services.

## SPARKLING RESULTS

Alpha Star, the second DSS™ 38 semisubmersible rig built for customer Queiroz Galvão Óleo e Gás (QGOG) by Keppel FELS was delivered on 26 March 2011, four months ahead of schedule and incident-free. For this stellar construction record, Keppel FELS was awarded a bonus of US\$8 million by the customer.

CH Tong, CEO of Keppel O&M, said, "This is our second safe and early delivery to QGOG and a sterling record for our company. This outstanding achievement is a demonstration of the great teamwork and synergy we have built with QGOG. "

Alpha Star has been chartered by Petrobras for six years to support

exploration and production activities offshore Brazil.

Leduvy Gouvea, CEO of QGOG said, "With this ahead-of-schedule delivery, we are able to start work earlier for Petrobras, and reinforce our status as the premier drilling operator in Brazil. We are confident that Alpha Star will be just as successful as its sister rig, the DSS™ 38 Gold Star, which is performing successfully for Petrobras in Brazil."



Alpha Star, the second of two DSS™ 38 semisubmersible rigs built by Keppel FELS for Brazil's Queiroz Galvão Óleo e Gás, has been delivered four months early

## NOBLE COMPLETION

The fabrication of the stern block module for the drillship, Noble Leo Segerius, was completed ahead of schedule and with an impeccable safety record by Keppel FELS.

Mick Robson, Noble's Project Manager, said, "The project teams worked incredibly hard to meet the targets and goals. Keppel FELS' finishing and attention to detail has to be about the best in the world. The project exceeded 1.5 million man hours worked without a single lost time incident. This is a remarkable achievement indeed."

The completed module departed on 23 February 2011 for Keppel FELS Brasil, which secured the job to upgrade and repair the drillship from Noble Drilling (Nederland) B.V. in 2009. While the module was being completed



in Singapore, Keppel FELS Brasil was concurrently fabricating the sponson tanks. The synergy of the yards enabled the work to be expedited.

Upon arrival at the BrasFELS yard, the module will be integrated with the existing vessel. The remaining work scope involves the fabrication, repair and replacement of components, including the accommodation blocks, sponsons and heliport.

#### **DIAMOND UPGRADE**

Long-time customer Diamond Offshore was highly satisfied after upgrades to its semisubmersible rig, Ocean America, were completed on time, within budget and with zero lost-time incidents.

In a letter of commendation to Keppel FELS' construction manager, Firdaus Rahim, and the project team, David Wedgeworth, Senior Projects Coordinator for Diamond Offshore said, "You and your project team were able to deliver our project quickly and with a desired quality of work. This in turn kept me under budget and on schedule.

"Your team met every challenge and change of work scope with an outstanding attitude and a great desire to achieve quality with the finished product. I look forward

to work with you on future projects at Keppel."

Ocean America departed

Keppel FELS promptly on 5 March 2011 for its deployment off Broome in the Browse Basin of Perth, Australia.



Completed safely and ahead of schedule, the stern block module for Noble Leo Segerius was transported from Singapore to Brazil in about 30 days



Diamond Offshore commended Keppel FELS as the upgrades to its semisubmersible rig, Ocean America, were completed on time, within budget and with zero lost-time incidents

# Clockwork construction



The complete lower hull, comprising ten lower hull blocks, was joined together in this first-of-its-kind keel-laying ceremony

From Singapore to Kazakhstan, Keppel yards worldwide make timely progress and achieve safety milestones on their projects.

## ENHANCED PERFORMANCE

Keppel FELS and Saudi Aramco celebrated two special milestones on 2 March 2011 – the keel laying of an enhanced Super B Class jackup and the first million man-hours worked on this vessel without any lost-time incident.

Instead of laying only one block of the hull, as in a typical keel-laying ceremony, Keppel FELS had already completed the fabrication, outfitting and painting of the entire hull.

Aziz Merchant, ED of Keppel FELS, said, "It was a record achievement to be able to meet the challenge of completing and joining the ten blocks together for this milestone. This is the result of good planning, teamwork and execution by the projects teams of Keppel FELS and Saudi Aramco."

Ghalib Al-Alwan, Manager of the Northern Area Projects Department, Saudi Aramco, congratulated the teams, saying, "Today's celebration redefines the meaning of keel-laying and reflects the desire by the teams to push the envelope, while maintaining high safety standards. The next phase of the project will be challenging but we look forward to continue the close cooperation."



Aziz Merchant, ED of Keppel FELS, receives an award from Ghalib Al-Alwan, Manager of the Northern Area Projects Department, Saudi Aramco, for the safety milestone achieved on the project

On this project, other than daily safety meetings, there are weekly walkthroughs with all trade superintendents and subcontractor





Gary Rutland, Drill Site Manager of Transocean (in red), strike steels for two Super B Class bigfoot jackups



In recognition of its commitment towards zero accidents, Agip KCO presented Keppel Kazakhstan with an award

supervisors to identify unsafe acts and hazards. They also attend courses such as safety leadership and confined space training.

Progressing well on schedule, the Super B Class Enhanced jackup rig is slated for delivery in the second half of 2012.

### STRIKING START

Getting off to a good start, the jackups of Transocean and Asia Offshore Drilling (AOD) struck steel in March and February 2011 respectively.

The strike-steel ceremony for Transocean's two Super B Class bigfoot jackups was held on 1 March 2011.

Lam Khee Chong, Senior Project Manager from Keppel FELS, said, "Our challenge in building these rigs is to meet the tight construction schedule of 23 months, whilst fulfilling the various requirements from Transocean and their clients. Drawing on Keppel FELS' vast experience and our close

collaboration with Transocean, suppliers and subcontractors, we are confident that we can successfully complete these fast-track projects."

On 22 February 2011, AOD, an affiliate of Mermaid Maritime, struck steel on its second KFELS B class jackup. The ceremony was witnessed by Directors from AOD as well as senior management from Keppel O&M.

Keppel FELS' Project Manager, Marlin Khiew, said, "This is our second strike steel for AOD in slightly more than two months. Building these two rigs almost simultaneously enables us to have greater synergy in project execution. Through close cooperation, we look forward to achieve our milestones on the two rigs for AOD on time, on budget and safely."

### THE WAY OF SAFETY

Since its partnership with Agip Kazakhstan North Caspian Operating Company N.V.

(Agip KCO) from 2005, Keppel Kazakhstan has achieved a record of 10 million man-hours without lost-time incident (LTI). In recognition of its commitment towards zero accidents, Agip KCO presented the company with an award on 7 February 2011.

Michael Hackley, Offshore Infrastructure & Civil's Project Manager from Agip KCO, said, "This is a fitting tribute to Keppel employees, who have worked hard to inculcate the safety culture in their workforce as 'the way we do things here'."

The customer contracted Keppel Kazakhstan to fabricate pipe racks modules and build four barges, which have supported the first phase of development of the Kashagan oil field. The Company has gone on to secure additional work orders through the years for an additional three barges and seven units of Ice-Breaking Emergency Evacuation Vessel berth connected pontoons.

# Solutions for waste water treatment



The existing water treatment system in the market is unable to separate the hydrocarbons from the produced water completely, leaving remnants of 0.1% to 10%.

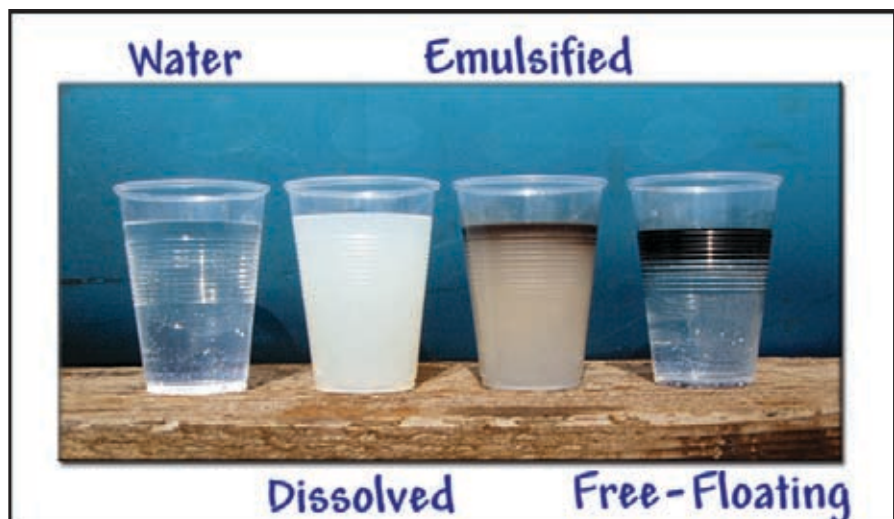
Produced water, or water associated with reservoir fluids in drilling activities, comprises 98% of the waste water generated from oil and gas operations. Over the past decade, the increased output of such waste water has aroused environmental concerns and posed a significant waste management challenge for oilfield operators.

Recent studies have revealed the presence of contaminants in produced water in vicinity of discharge sites. Chronic exposure to such bioaccumulation and toxicity of produced water would further impact the development of marine life.

It is estimated that about 19 billion barrels of produced water are discharged to the ocean

annually. Due to its potential environmental impact, produced water must be further treated for remaining hydrocarbons before being discharged into the sea. The allowed disposal concentration varies across countries.

Another preferred method of operators is to re-inject produced water into a disposal well. Contaminants, which could otherwise plug the reservoir and/or damage injection equipment, must be removed carefully.



Offshore produced water disposal regulations



Typically, the produced water is separated from the hydrocarbons by passing the well stream through process equipment such as three-phase separators, dehydrators, and/or a free-water knockout vessel. These gravity separation devices are unable to separate the hydrocarbons from the produced water completely, leaving remnants of 0.1% to 10%.

Innovative, environmentally focused and reliable methods for produced water treatment are in great demand. The market for final stage produced water treatment systems is estimated to be around \$4.3 billion for the next

five years while the market for re-injection systems is around \$9.8 billion over the same period.

Currently, DPS Bristol, Keppel’s associated process engineering group in United Kingdom and KOMtech are collaborating to develop a full range of innovative waste water treatment technologies to address concerns that are more cost effective and efficient than existing ones.

DPS Bristol is experimenting with new advanced centrifuge technologies that is capable of separating oil, water, solid, gas and emulsion. Other DPS

innovative products include developing a hydrocyclone method to achieve a much better separation of oil droplets from produced water. This enhanced method requires lower inlet pressure, which in turn allows customers to save their operating costs.

Once ready, these technologies would help operators to minimise operating costs, maximise footprint and energy efficiency, while maintaining production and/or increasing oil recovery rates.

## Offshore produced water disposal regulations

Countries	Allowable disposal concentrations
Ecuador , Colombia	30 mg/l All facilities
Brazil	(previously 30 ppm) 20 mg/l All facilities
Argentina and Venezuela	15 mg/l New facilities
Indonesia	25 mg/l Grandfathered facilities
Malaysia, Middle East	30 mg/l All facilities
Angola, Cameroon, Ivory Coast	50 mg/l All facilities
Nigeria	30 mg/l (follow North Sea OSPAR)
North Sea	(before 2006, 40 ppm) 30 mg/l All facilities
Australia	30 mg/l All facilities
Thailand	50 mg/l All facilities
USA	(Zero discharge inland water) 29 mg/l OCS water
Russia	(enclosed 0.05 ppm) 15 mg/l (Baltic Sea)

\*1 mg/l = 1 ppm

# Boosting resilience

A robust Business Continuity Management (BCM) framework underpins the ability of Keppel O&M group to perform daily operations and deliver critical services to customers with minimal disruptions during emergencies.

On 17 March 2011, Keppel O&M group held a table-top

exercise, which was conducted in compliance with the regulations laid down under the Internal Ships & Ports Security requirements for world-class maritime facilities.

The exercise was intended to address and manage potential threats and disruptions to operations arising from outbreak of epidemics, terrorism, natural

calamities and damages to critical facilities.

Attended by Keppel O&M safety personnel, the Singapore Civil Defence Force and the police, the exercise spawned in-depth discussions on various scenarios related to security issues.

Anthony Toh, Group Security Manager of Keppel O&M, said, "Even though there is no current information of any specific threats against Singapore, our security assessment is that the threat of terrorism in Singapore remains real.

"Such discussions provide us with the opportunity to get more familiar with one another's operational procedures so that we can better respond to emergency situations should they arise in future."



Keppel O&M's security team, the Singapore Civil Defence Force and the police exchanged views on security management

---

# Spurring productivity

Keppel O&M's continuous efforts to enhance productivity have helped to sustain its position as the world's leading offshore rig designer and builder for decades.

CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, shared this and the tenets of what productivity entails to the Keppel Group, as keynote speaker, at the Building and

Construction Authority's (BCA) annual staff conference on 11 March 2011.

A firm foundation anchored in the core values of safety, accountability, innovation and customer focus, form the bedrock of Keppel's growth, CB Choo shared. He also shed light on how Keppel's long-term capability to create value is enhanced through leveraging technology, automation

and prefabrication, as well as standardised processes.

Addressing the 100-strong audience which included Quek See Tiat, Chairman of BCA, CB Choo said, "Equally important, we need to look into the 'heart ware' – the people factor and the mindset. To achieve consistent excellence, we have to communicate with and motivate our people to embrace a common set of core values."



# Ideas for growth



CH Tong, CEO of Keppel O&M, shared how technology innovation and service excellence play a key part in keeping the company ahead of the game

To stay ahead of competition, it is important not only to constantly innovate but to also nurture the next generation of thinkers.

CH Tong, CEO of Keppel O&M, shared on Keppel's efforts to promote innovation at the heart of the organisation with the business community in recent months.

## **DRIVING INNOVATION & SERVICE EXCELLENCE**

At the Innovation and Service Excellence conference in Batam on 25 February 2011, CH Tong elaborated on how technology

innovation and service excellence have helped Keppel O&M out-perform its competitors to become a global leader today.

CH Tong said, "At Keppel O&M, technology innovation is one key element of our strategy to create value and achieve customer satisfaction. We constantly invest in research and development and continue to do so even during the worst downturns.

"We do not simply innovate for the purpose of creating new solutions. Whatever we create must help our

customers achieve their commercial and business goals."

The two-day conference was attended by 80 participants from government agencies and corporations.

## **ENGINEERING THE FUTURE**

To remain a forerunner in the global offshore and marine sector, Singapore must continue to nurture new talents to break new grounds and maintain the lead.

As the Guest-of-Honour at the Society of Naval Architects & Marine Engineers, Singapore's (SNAMES) annual Dinner & Dance held on 4 March 2011, CH Tong emphasised this message and elaborated on the important contributions by SNAMES to the industry.

CH Tong shared, "The offshore and marine industry, which Keppel represents, is highly dependent on a constant supply of skilled talents to drive its success. As the maritime industry expands, so does the need for a highly trained workforce and to build up our pool of Singaporean naval architects and marine engineers."

He added that with increasingly stringent environmental and safety standards, Singapore is well-placed to develop better technologies and processes where naval architects and marine engineers play a key role in helping the industry meet its challenges.

# Developing talents



The Keppel Leadership Development programme is one of several talent development schemes offered by the Keppel College

The Keppel College held several programmes in recent months to advance the development of staff in the areas of leadership, team building and mentorship.

## **FORGING LEADERSHIP & TEAMWORK**

A group of 23 employees coming from Keppel O&M and other business units in Keppel Group took part in the 11th Keppel Leadership Development Programme from 24 to 26 February 2011.

Organised with Outward Bound Singapore, the programme uses an adventure-based “learn-by-doing” approach to improve the participants’ self-perception and self-efficacy, leading to greater

personal effectiveness and resilience.

Held at Pulau Ubin, the programme proved to be challenging, yet fun and enriching for the participants. Having endured three activity-packed days together, many of them forged new friendships and good memories with one another.

## **DEVELOPING MENTORS**

Keppel’s mentoring programme attaches mentors to new hires to help them adjust and understand the Company’s environment and culture.

On the afternoon of 13 April 2011, Keppel College organised a half-day mentoring workshop for mentors across the organisation.

Led by CPP Asia Pacific, the workshop explained the objectives of the mentoring programme, and also brought the mentors’ attention to the benefits as well as limitations of mentoring. Various methods and processes were introduced, and exercises were carried out to coach the participants on their communication skills and questioning techniques.

“The workshop was very informative and engaging. I feel that I am in a better position now to share my experiences in the Group to guide my mentees,” shared Terry Wong, Senior Project Manager, Keppel Shipyard.



# Golden recollection

Having worked at Keppel for 50 years, Ibrahim Bin Bachik has witnessed the company's remarkable growth from a small shiprepair yard in the 1960s into a provider of choice for the global offshore and marine industry today.

It was in 1960, at the age of 19, that Ibrahim joined Singapore Harbour Board, which was later renamed Keppel Shipyard. Working as a messenger, he travelled around Singapore in a van delivering packages.

He subsequently became a Plan Printer in the drawing department. Ibrahim elaborated, "In those days, plan drawings were done by hand. In order to make copies of it, I would take a photo and then develop that photo myself with the in-house machine. It was just like how a photo studio develops negatives. Today, of course, the plans are drawn on computers and printed out with printers within seconds."

Recalling his early days fondly, he said, "My colleagues and bosses took good care of me and really helped me out. During my time in Keppel, I learnt many new skills and my colleagues were like my second family. This spirit of camaraderie has stayed with Keppel since its Singapore Harbour Board days.

"During difficult times, we banded together and kept up positive attitudes. The management has been very supportive; one of the

reasons I have stayed with Keppel for so long is because I have always felt secure in my job."

Over the years, Ibrahim has helped mentor new recruits. Illustrating his philosophy of renewal, he said "My uncles who worked here – two as electricians and one as a driver – had recommended me to this company. I have in turn recommended my son."

Reduan, a Senior Engineer in the Plant and Maintenance Department, who has worked at Keppel Shipyard for seven years, said, "I remember my dad working at the shipyard when I was young. When I became an engineer, the

marine industry was the natural choice and where better than Keppel? Having worked here for a while now, I can see how the Keppel spirit is nurtured through the generations."

Ibrahim who recently retired as an Administrative Assistant now looks forward to watching his son's 4 month old baby take baby steps, and perhaps blossom into another next-generation Keppelite.

At Keppel Shipyard's year-end celebration last year, Ibrahim was given a warm farewell and presented with a plaque, a for his years of dedicated service towards the company.



The longest serving Keppelite, Ibrahim (left), with his son Reduan at Keppel Shipyard

# Keeping employees in the pink

Keeping osteoporosis, a condition of weak and porous bones, at bay is as simple as drinking more milk each day. Keppel Shipyard spread this simple health message and showed its care and concern for the health of its workforce by holding Milk Day on 18 March 2011.

Each employee received a nutritious packet of milk as a reminder to increase one's calcium intake.

Driving the effort was Keppel Shipyard's Workplace Health Committee, which aims to help keep Keppelites interested in diverse aspects of health and wellness.

The committee collaborated with the Health Promotion Board (HPB) to organise the "Healthy Bones Begin with You" workshops at Keppel Shipyard (Tuas) on 15 and 22 March 2011.

60 participants attended the workshops. They were encouraged to engage in regular weight-bearing and resistance exercises to help increase their bone mass or slow down age-related bone loss.

At the workshops, a dietician also demonstrated how to prepare high-calcium snacks, as essential to having strong bones is maintaining healthy intakes of calcium and vitamin D.

Yoon Meng Chin, an accountant at Keppel Shipyard, said, "The workshops were very informative. I found the sharing on the various types of high calcium food – such as nuts, seeds and papaya – especially useful as my stomach does not take well to dairy products. I hope that there will be more of such initiatives in future."



Keppel Shipyard's Workplace Health Committee organised the "Healthy Bones Begin with You" workshop at Keppel Shipyard (Tuas) on 15 and 22 March 2011



To promote a healthy lifestyle amongst its employees, Keppel Shipyard held Milk Day on 18 March 2011 and gave every employee a nutritious packet of milk



# An hour for the Earth



Students from the Singapore Polytechnic and staff from Keppel Housing observe Earth Hour with Keppel's foreign workers

Keppel O&M's yards in Singapore and the Philippines rallied together to do their part for the environment, pledging support for the Earth Hour, an initiative by the World Wildlife Fund.

They switched off all lights in offices and open-air car parks on 26 March 2011, from 8.30pm to 9.30pm, in accord with Earth Hour. Eco-friendly tips were

also disseminated through electronic memos and posters to spread the green message to employees.

Meanwhile, its foreign workers residing at the Acacia, Juniper and Kian Teck accommodation lodges joined in the dimming of lights. Collectively, these dormitories saved 504 kilowatts of energy during Earth Hour.

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.

# Adding colour to life

With a dash of white and a splash of green, 20 employees from the BrasFELS yard decorated the faces of elderly folk with smiles, as they gave a fresh coat of paint to the walls of the O Bem Querer A Casa Do Idoso old age home in Japuiba, Angra dos Reis.

Armed with brushes in their hands and a determination to add colour to the lives of the elderly, the volunteers also roped in suppliers such as Extraquadro, which contributed 13 tins of paint to the cause.

Putting her work skills to good use, Clelia Dias from BrasFELS' painting section was quick to lend a hand by guiding her less experienced fellow volunteers on how to do a good paint job. "All the time and effort spent was worthwhile, especially when you see how such a simple gesture brings joy to the elderly," she said.

The painting project was completed in two days. As the saying goes, many hands make light work. Clelia and her colleagues hope that more Keppelites will step forward and offer their time and skills for the next Voluntarios Program, a series of community outreach activities championed by BrasFELS.



Volunteers from BrasFELS gave a fresh makeover to the O Bem Querer A Casa Do Idoso old age home



# Relaying hope

Running for life was what 40 employees from Keppel AmFELS did at a national campaign organised by the American Cancer Society to celebrate cancer survivors and raise funds for research.

Keppel AmFELS has been participating in the Relay for Life event along with the community, organisations, students and cancer survivors since 2002.

Aptly themed “Quinceanera”, this year’s relay was held in honour of teenage cancer survivors Mandy and Valeria. Quinceanera marks a girl’s coming of age at 15 in Latin American culture. During the opening ceremony, the girls shared about their battle with the illness, and ran the first lap around



Jesus Garza, a Keppelite cancer survivor, in the centre of the group wearing a dark purple survivor shirt

the track in their Quinceanera costumes along with other cancer survivors.

Leading Keppel AmFELS’ contingent was Jesus Garza, a safety inspector in Keppel

AmFELS, who is himself a cancer survivor. “Cancer has changed my life. Having been a patient myself, I want to help others suffering from the disease and make a difference in the fight against cancer,” he shared.

---

# Lending a helping hand



Dr Lee Chay Hoon, GM (Organisation Development) of Keppel O&M, receives a token of appreciation from Soh Chee Keong (extreme right), Honorary Treasurer of Society for the Physically Disabled

As a committed and responsible corporate citizen, Keppel O&M actively supports charities and makes meaningful contributions to local communities and non-profit organisations.

In continuation of its efforts, Keppel O&M recently donated \$50,000 to the Society for the Physically Disabled (SPD). The money will go towards helping Singapore’s disabled community.

In appreciation, Soh Chee Keong, Honorary Treasurer of the SPD Board of Management, presented a token to Dr Lee Chay Hoon, GM (Organisation Development) of Keppel O&M, on 13 March 2011 at the SPD charity show.

Then Senior Minister Goh Chok Tong was the Guest-of-Honour for the event, which was held at MediaCorp. The show raised more than \$4.25 million.

# Work hard, play hard

From bowling and sepak takraw to cycling at Pulau Ubin and climbing Mount Ophir, Keppelite Recreation Club (KRC) plans a wide range of activities every year, bonding Keppelites from all walks of life through games and expeditions.

KRC's activities span the year and cater to the different interests of its members. They are also regularly subsidised.

This year, Keppelites can look forward to a pipeline of exciting activities:

## COMPETITIVE SPORTS

Badminton, Basketball, Bowling, Cricket, Cross-country, Dragon boat,

Fishing, Golf, Pool, Sepak takraw, Soccer, Table-tennis

## EXPEDITIONS AND OTHER ACTIVITIES

- Bangkok, Thailand
- Lake Toba, Indonesia
- Taipei, Taiwan
- Tioman, Malaysia
- Seoul, South Korea
- Siem Reap, Cambodia
- Annual dinner and dance
- Cycling at Pulau Ubin
- Hiking at Kota Kinabalu, Malaysia
- Hiking at Sungei Buloh
- Kite flying
- Mount Ophir and Malacca, Malaysia
- Qian Hu fish farm visit

KRC's corporate memberships are extended to members who can enjoy privileges when they take their family and friends to various places of interest in Singapore, including the Jurong Bird Park, Sentosa Island and the Singapore Zoo.

With KRC, Keppel is more than just a place of employment – it can be where long-lasting friendships are forged as well.





# GLOBAL NETWORK

## Keppel Offshore & Marine Ltd

(Head Office)  
50 Gul Road Singapore 629351  
Tel: 65 6863 7200  
Fax: 65 6261 7719  
www.keppelom.com

## SINGAPORE

### Keppel FELS Limited

(Pioneer Yard 1 – Head Office)  
50 Gul Road Singapore 629351

(Pioneer Yard 2)  
55 Gul Road Singapore 629353

(Shipyard Road)  
31 Shipyard Road Singapore 628130

(Crescent Yard)  
60 Shipyard Road Singapore 628131

Tel: 65 6863 7200  
Fax: 65 6261 7719  
Email: marketing@keppelfels.com  
www.keppelfels.com

Contact Persons: Wong Kok Seng, Managing Director  
Keith Teo, General Manager (Marketing)

### Keppel Shipyard Limited

(Tuas Yard – Head Office)  
51 Pioneer Sector 1 Singapore 628437  
Tel: 65 6861 4141  
Fax: 65 6861 7767

(Benoi Yard)  
15 Benoi Road Singapore 629888  
Tel: 65 6861 6622  
Fax: 65 6861 4393

(Gul Yard)  
55 Gul Road Singapore 629353  
Tel: 65 6861 3007  
Fax: 65 6862 3645/7

www.keppelshipyard.com  
Email: ks@keppelshipyard.com  
Contact Persons: Nelson Yeo, Managing Director  
Louis Chow, Senior General Manager (Commercial)  
Mah Chan Wah, General Manager (Commercial – Shiprepair)

### Keppel Singmarine Pte Limited

15 Benoi Road Singapore 629888  
Tel: 65 6861 6622  
Fax: 65 6862 1792  
Email: singmarine@keppelsingmarine.com  
www.keppelsingmarine.com  
Contact Persons: Hoe Eng Hock, Executive Director  
Poon Tai Lum, General Manager (Commercial)

### Keppel Offshore & Marine Technology Centre (KOMtech)

31 Shipyard Road Singapore 628130  
Tel: 65 6591 5450  
Fax: 65 6265 9513  
Email: KOMtech@keppelom.com  
Contact: Dr Foo Kok Seng, Centre Director

### Offshore Technology Development Pte Ltd

55 Gul Road Singapore 629353  
Tel: 65 6863 7409  
Fax: 65 6862 3465  
Email: felsotd@pacific.net.sg  
Contact Person: Dr Foo Kok Seng, Executive Director

### Deepwater Technology Group Pte Ltd

50 Gul Road Singapore 629351  
Tel: 65 6863 7163  
Fax: 65 6863 1739  
Email: aziz.merchant@keppelom.com  
Contact Person: Aziz Merchant, Head

### Marine Technology Development Pte Ltd

15 Benoi Road Singapore 629888  
Tel: 65 6860 2858  
Fax: 65 6860 2502  
Email: chenghui.tan@keppelsingmarine.com  
Contact Person: Tan Cheng Hui, Senior General Manager

### Asian Lift Pte Ltd

23 Gul Road Singapore 629356  
Tel: 65 6668 4222  
Fax: 65 6668 4333  
Email: asianlift@asianlift.com.sg  
Contact Person: John Chua, General Manager

### Keppel Smit Towage Pte Ltd

23 Gul Road Singapore 629356  
Tel: 65 6668 4222  
Fax: 65 6897 8056  
Email: kst@keppelsmit.com.sg  
Contact Person: Ben Chew, General Manager

## AUSTRALIA

### Keppel Prince Engineering Pty Ltd

Level 7, 3 Bowen Crescent, Melbourne, Victoria 3004, Australia  
Tel: 61 3 9820 9033  
Fax: 61 3 9866 6110  
Email: cchiam@ozemail.com.au  
Contact Person: Charles Chiam, Director

## AZERBAIJAN

### Caspian Shipyard Company Ltd

South Bay, KMNF Basin  
Baku AZ1023, Azerbaijan  
Tel: 994 12 449 9930  
Fax: 994 12 449 9931  
Email: csc@csc.az  
Contact Person: Yan Naing Myint, President

## BRAZIL

### Keppel FELS Brasil SA

Rua da Assembleia, 10 - 2113  
20011-000 Rio de Janeiro, RJ, Brazil  
Tel: 55 21 2102 9400  
Fax: 55 21 2224 2248  
www.kfelsbrasil.com.br  
Email: kaichoong.kwok@keppelfels.com  
Contact Person: Kwok Kai Choong, President & CEO

## BULGARIA

### Keppel FELS Baltech Ltd

54 Debar Street, Varna 9000, Bulgaria  
Tel: 359 52 684 250/1  
Fax: 359 52 684 252 (Admin)  
Email: office@fels.bg  
Contact Person: Lyudmil Stoew, General Manager

## CHINA/HONG KONG

### Keppel Nantong Shipyard Ltd

No. 9 Yan Jiang Road, Nantong City, Jiangsu Province  
P.R. China 226005  
Tel: 86 513 8530 0000  
Fax: 86 513 8530 0011  
Email: taikee.lee@keppelnantong.com  
Contact Person: Lee Tai Kwee, President

### Keppel FELS Engineering Shenzhen Co., Ltd.

3th Floor, Chiwan Petroleum Building  
Chiwan Road No. 5, P.R. China 518068  
Tel: 86 755 26851902, 86 755 26851959,  
65 68637215 (Singapore Contact)  
Fax: 86 755 26851670  
Email(China): jiongheng.ho@kfelsshenzhen.com  
Email (Singapore): jiongheng.ho@keppelfels.com  
Contact Person: Ho Jong Heng, General Manager

## INDIA

### Keppel FELS Offshore and Engineering Services Mumbai Pvt Ltd

Unit Number 3, 8th Floor, Prism Tower-A, Mindspace,  
Link Road, Goregaon (West), Mumbai 400 062, India  
Tel: 91 22 4001 8888  
Fax: 91 22 4001 8898  
E-mail: anant.shukla@kfelstmumbai.com  
Contact Person: Anant Shukla, General Manager

## INDONESIA

### Bintan Offshore

Kampung Budi Mulia, RT.02/RW.01, Desa Sei Walang  
Kecamatan Bintan Timur, Kabupaten Bintan  
Propinsi Kepulauan Riau, Indonesia  
Tel: 62 771 462 2297  
Fax: 62 771 462 2298  
Email: herman.elfendy@keppelfels.com  
Contact person: Herman Effendy, General Manager

## JAPAN

### Regency Steel Japan Ltd

46-59 Nakabaru, Tobata-ku  
Kitakyushu, Fukuoka 804-8505 Japan  
Tel: 81 93 861 3103  
Fax: 81 93 861 3114  
Email: ws.chong@rs-j.com  
Contact person: Wong Chun Yu, President

## KAZAKHSTAN

### Keppel Kazakhstan LLP

SEZ "Seaport Aktau", Aktau 130000, Mangistau Oblast  
Republic of Kazakhstan  
Tel: 7 7292 571 100  
HP: 7 300 528 4885  
Fax: 7 7292 571 110  
Email: pw.yick@kkl.kz  
Contact Person: Yick Ping Wong, General Director

## THE NETHERLANDS

### Keppel Verolme BV

Prof. Gerbrandweg 25, 3199 KK Rotterdam-Botlek  
Harbour no. 4550, P O Box 1001, 3180 AA Rozenburg  
The Netherlands  
Tel: 31 181 234300  
Fax: 31 181 234346  
Email: mail@keppelverolme.nl  
www.keppelverolme.nl  
Contact Person: Harold W.M. Linsen, Managing Director

## NORWAY

### Keppel Norway AS

Strandgaten 147, P O Box 425, 4304 Sandnes, Norway  
Tel: 47 5160 2500  
Fax: 47 5160 2510  
Email: stha@keppelnorway.com  
www.keppelnorway.com  
Contact person: Steinar Haugen, President

## THE PHILIPPINES

### Keppel Philippines Marine Inc

Unit 3-B Country Space 1 Building, Sen. Gil Puyat Avenue,  
Salcedo Village, 1200 Makati City, Philippines  
Tel: 63 2 892 1816  
Fax: 63 2 815 2581, 63 2 892 4604  
www.keppelphilippinesmarineinc.com  
Email: mhq@keppelpm.com or commercial@keppelpm.com  
Contact Person: Toh Ko Lin, President

### Keppel Batangas Shipyard

Barrio San Miguel, 4201 Bauan, Batangas  
Philippines  
Tel: 63 43 7271532 to 36  
Fax: 63 43 7271453  
Email: kbs@keppelpm.com  
Contact Person: Poh Leong Kok, Senior Vice-President

### Subic Shipyard and Engineering, Inc.

Cabangaan Point, Cawag  
2209 Subic, Zambales, Philippines  
Tel: 63 47 232 2380  
Fax: 63 47 232 3350, 63 47 232 3883 to 84  
Email: all@subicship.com or commercial@subicship.com  
Contact Person: Mok Kim Whang, President

## QATAR

### Nakilat-Keppel Offshore & Marine

Erhama Bin Jaber Al Jalahma Shipyard  
Southern Break Water, Ras Laffan Industrial City (RLIC)  
P.O. Box 28388, Qatar  
Tel: 974 4419 7300  
Fax: 974 4419 7301  
Email: commercial@nkom.com.qa  
Contact Person: Abu Bakar Mohd Nor, CEO  
Chin Sze Kiun, Commercial Manager

## UNITED ARAB EMIRATES

### Arab Heavy Industries

P O Box 529, Ajman, UAE  
Tel: 971 6 526 3232  
Fax: 971 6 526 3233  
Email: ahiaeme@emirates.net.ae  
www.ahi-uae.com  
Contact Person: Leong Yew Kong, Managing Director

## USA

### Keppel Offshore & Marine USA Inc.

5177 Richmond Ave, Suite 1065, Houston, TX 77056, USA  
Tel: 1 713 600 8380  
Fax: 1 713 600 8384  
Email: yewyuen.chow@keppelOM-usa.com  
Contact Person: Chow Yew Yuen, President

### Keppel AmFELS LLC

PO Box 3107, 20000 South Highway 48  
Brownsville, TX 78523, USA  
Cell: 1 956 592 6149  
Tel: 1 956 838 3187 Fax: 1 956 831 6220  
Email: g.tan@keppelamfels.com  
Contact Person: Tan Geok Seng, President & CEO

### FloaTEC, LLC

14701 St. Mary's Lane, Suite 250, Houston, TX 77079  
Main Tel: +1 281 870 5200  
Main Fax: +1 281 870 5210  
Email: businessdevelopment@floatec.com  
Website: www.FloaTEC.com  
Direct Tel: +1 281 870 5556  
Mobile: +1 281 381 2781  
Email: ehnamtvtd@floatec.com  
Contact Person: Eric H. Namtvtd, President

### Keppel Marine Agencies International LLC

(Texas Office)  
5177 Richmond Ave, Suite 1065, Houston, TX 77056, USA  
Tel: 1 713 600 8371  
Fax: 1 713 600 8374  
Email: mike.holcomb@kmaihouston.com /  
Contact Person: Michael Holcomb, President/Director  
Mobile 1 713 816 0438  
Email: john.bajor@kmaihouston.com  
Contact Person: John C Bajor, Marketing Manager  
Mobile 1 713 922 3226

(New Jersey Office)

15 Huddy Avenue, PO Box 417, Highlands, New Jersey, USA  
Tel: 1 713 600 8370  
Fax: 1 713 600 8374  
Email: keppelnj@comcast.net  
Contact Person: John J. Bajor, Director

## VIETNAM

### Keppel FELS Limited

Petrovietnam Tower, Suite 150M  
9 Hoang Dieu Street, Ward 1, Vung Tau City, S.R. Vietnam  
Tel: 84 64 850098  
Fax: 84 64 850089  
Email: john.chin@keppelfels.com  
Contact Person: John Chin, Country Manager

## RUSSIA

### Marine & Shelf Development Ltd

129090 Moscow, 12, B.Spaskaya str., office 101, Russia  
Tel: 7 (495) 9378978, 9378966  
Fax: 7 (495) 9378978  
Email: marketing@keppelfels.com

# Staying on the topside



Dyna-Mac's expertise and operations will complement Keppel's competencies in the designing and fabricating oil and gas production modules

Strengthening its lead as the total solutions provider for floating production systems, Keppel O&M, through its wholly-owned subsidiary KS Investments Pte Ltd (KSI), has acquired a 27.77% stake in topside module fabricator Dyna-Mac Holdings Ltd (Dyna-Mac) via an equity placement.

This follows Dyna-Mac's successful listing on the main board of Singapore Exchange Securities Trading Limited (SGX). KSI's total investment is S\$87.5 million based on the invitation price of 35 cents per share.

The equity placement, through its investment vehicle KSI, is part of a collaboration between Keppel Shipyard, a wholly-owned subsidiary of Keppel O&M and Dyna-Mac to jointly pursue the topside module business beyond Singapore's shores.

Nelson Yeo, MD (Marine) of Keppel O&M, was appointed to the Board of Dyna-Mac as a Non-Executive Director.

He said, "This strategic investment strengthens Keppel O&M's capabilities as a core solutions provider in floating production systems including FPSOs.

Having converted and built more than 100 FPSOs, FSOs and other production units, the Keppel O&M group has established a solid track record in the engineering, fabrication and integration of topsides for customers worldwide.

Desmond Lim, Executive Chairman and CEO of Dyna-Mac said, "We are very pleased that Keppel O&M sees Dyna-Mac as a strategic partner in its growth plans. Having a strong shareholder such as Keppel on board will broaden the

**"Dyna-Mac's expertise and operations will complement Keppel's competencies and allow us to exert better control over the process of designing and fabricating oil and gas production modules."**

*Nelson Yeo  
MD (Marine) of Keppel O&M*

horizon for Dyna-Mac to expand our businesses and offerings globally, as we tap into Keppel's presence, operating experience and relationships in key overseas markets.

"In harnessing the synergies of Keppel and Dyna-Mac, we are confident of becoming a prime module fabricator in the oil and gas industry, and creating lasting value for our shareholders."