

# Offshore Keppel Marine

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Offshore

**P-51: Another Brazilian dream delivered**

Marine

**Keppel scores four**

**Varandey glitters at Keppel Marina**



**Perfect 10  
for SBM as  
Espirito Santo  
sails off**



**Ice-Class FSO arrives in Baku in two halves** **Page 14**



**Training centre unveiled** **Page 16**



**The Keppel Family celebrates** **Page 40**

## FEATURES

Breaking the Arctic ice	4
Completing a voyage	10
Building a jetty	16
Keppel FELS tops nation for innovation and excellence	32
Sharpening on safety	38
Sundowners brings out the ghouls	40
Promoting Latin America in Asia	46
Sharing is rewarding	50

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# Keppel Shipyard secures two conversion projects



Keppel Shipyard recently delivered *Golar Spirit*, the world's first methane vessel to be successfully converted to perform LNG re-gasification processes onboard, for Golar LNG. *Golar Winter* will be the second FSRU Keppel Shipyard will convert for Golar LNG

**K**eppel Shipyard has secured contracts from repeat customers for the upgrading, modification and conversion of two vessels.

Work on the vessels commenced in October 2008.

Nelson Yeo, ED of Keppel Shipyard said, "We are pleased to again be entrusted with new projects from owners who have worked with us before. We will continue strengthen our partnership, providing safe and high quality services, especially in the current tight market conditions."

The first contract is from Single Buoy Moorings Inc (SBM), for the upgrading and conversion of a tanker into a Floating Production, Storage and Offloading vessel (FPSO). This will be the tenth FPSO conversion project that Keppel has undertaken for SBM since 2000.

To be converted from the 255,272 dwt VLCC (Very Large Crude Carrier) *MT Accord*, the spread-moored *P-57* FPSO will be capable of

producing 180,000 bopd and undertake gas compression of 71 million cubic feet of gas per day (mmscf/d).

Keppel Shipyard's scope of work includes the hull and marine conversion, spread mooring aids installation, accommodation block extensions/refurbishment, fabrication & installation of marine pipe rack, topside module supports as well as part of the topside modules installation.

To be supplied in a fixed lumpsum contract by SBM to Petrobras SA, the vessel is expected to leave Keppel Shipyard in the fourth quarter of 2009 for Brazil where the remaining work will be completed, which will account for 65% of the whole project. The vessel will subsequently be deployed in the deepwater Jubarte field in the Campos Basin.

The second contract is from Golar LNG, for the conversion of *Golar Winter* (VT1), a Membrane Liquefied Natural Gas (LNG) Carrier into a Floating Storage & Re-gasification Unit (FSRU). This comes on the back of Keppel Shipyard's recent delivery of the world's first FSRU *Golar Spirit* (VT2) to Golar LNG.

The scope of work includes the installation of a re-gasification plant system, the upgrade of control systems, electrical systems and marine systems.

When completed in the second quarter of 2009, the FSRU *Golar Winter* will be capable of re-gasifying fourteen million cubic metres of natural gas per day. Like the *Golar Spirit*, the vessel will be operated by Brazilian state-run oil company Petrobras SA. It will be moored at a pier in the Guanabara Bay, off Rio de Janeiro. *Golar Spirit* has been moored at the Port of Pecem, northeast of Brazil.

# Breaking the Arctic ice

**K**eppel Singmarine has completed Asia's first two icebreakers, built for one of the harshest marine frontiers on Earth – the Arctic sea – for valued client, LUKOIL-Kaliningradmorneft (LUKOIL).

Charles Foo, Chairman of Keppel Singmarine, said, "This is the first time that icebreakers meant for the Arctic region are built in the tropics. It also marks Keppel Singmarine's entry into the flourishing oil and gas market in the Arctic region."

The second vessel was named *Varandey* by Mrs Lyudmila Velikova, wife of Victor Velikov, Deputy General-Director of LUKOIL at a Russian-themed ceremony at Marina at Keppel Bay on 3 November 2008. The first icebreaking vessel, *Toboy*, was delivered to LUKOIL in August this year.

Velikov shared at the ceremony that *Varandey* is the fourth vessel Keppel Singmarine has constructed for LUKOIL. It is also the most sophisticated and complicated vessel built by Keppel Singmarine for LUKOIL to date.

*Varandey* will join *Toboy* in the Barents Sea of Russia where they will help forge passages through the ice for oil tankers serving the *Varandey* Terminal.

Both *Varandey* and *Toboy* are designed to work in the harshest environments, cutting through solid ice over 1.7m thick, equivalent

to the height of a grown man, and operating in extreme temperatures as low as -45°C.

According to the latest United States Geological Survey, it is estimated that the Arctic may hold as much as 90 billion barrels of undiscovered oil reserves and 1,670 trillion cubic feet of natural gas. This is equivalent to as much as 13% and 30% of the world's total undiscovered oil and natural gas respectively.

Charles Foo said, "The increasing oil and gas exploration and production activities in the Arctic present tremendous opportunities for specialised and robust vessels such as the icebreaking vessels.

"Seizing this opportunity and in line with Keppel Offshore & Marine's group strategy of 'Near Market, Near Customer', Keppel Singmarine embarked on a study of the offshore activities in the Arctic in order to build up our shipbuilding capabilities in ice technology."

Its strategy paid off when Keppel Singmarine was awarded the contract from LUKOIL in 2006 to construct Asia's first two icebreakers.

Charles Foo added, "This was a milestone for Keppel especially since we had secured the contract amidst strong competition from European yards, which have a long tradition in and strong infrastructure of related arctic technology."





(Left) *Varandey* was named by Lyudmila Velikova (front row, second from right), wife of Victor Velikov (front row, right). She is accompanied by (front row, from L) CH Tong, Keppel O&M MD/COO; Charles Foo, (second row, from L) Hoe Eng Hock, Keppel Singmarine ED; Teo Soon Hoe, Keppel O&M Board of Director and Keppel Corporation Senior ED and Group Finance Director; (third row, from L) Cpt Konstantin Pshenichny; Cpt Gregory Martyuk and H.E. Vladimir Pushkov, Minister Counsellor, Deputy Chief of Mission, Embassy of Russia

Icebreaking vessels have to work in extreme conditions, complying with strict operating standards to ensure performance and safety. Both *Varandey* and *Toboy* are built in compliance with the rules and regulations of the Russian Maritime Register of Shipping, and are customised in accordance with the owner's stringent requirements and superior technical specifications.

Velikov added, "The enthusiasm and competence displayed by Keppel Singmarine in building the two icebreakers are remarkable. It met our expectations with regards to technical solutions and workmanship. We look forward to strengthening our ties with Keppel Singmarine in the near future."

Russia, with its huge reserves of oil and gas, has always been an important market for the Keppel Offshore & Marine group. Its relationship with Russia dates back to the 70s when Keppel Shipyard and Keppel FELS serviced various owners in shiprepair and ship conversion, and offshore rig construction and repair respectively.

Keppel Singmarine has delivered two ice-class Anchor Handling Tug/Supply (AHTS) vessels, *M.V. Svetlyy* and *Vzmorye* to LUKOIL in 2006 and 2007 respectively. The yard is presently constructing a Floating Storage and Offloading (FSO) unit and two ice-class multi-purpose standby and rescue vessels for LUKOIL.

*Continued on page 6* ►



◀ Continued from page 5

## Moonlit Naming at Keppel Bay

The naming of the icebreaker, *Varandey*, at Marina at Keppel Bay on 3 November, kindled memories of the heydays when ships from all over the world sailed into the docks of the old Keppel Shipyard to be repaired.

Nestled on Keppel Island, the Marina at Keppel Bay is part of the new iconic waterfront residential precinct of Keppel Bay, which offers breathtaking views of the emerald sea and resplendent horizon

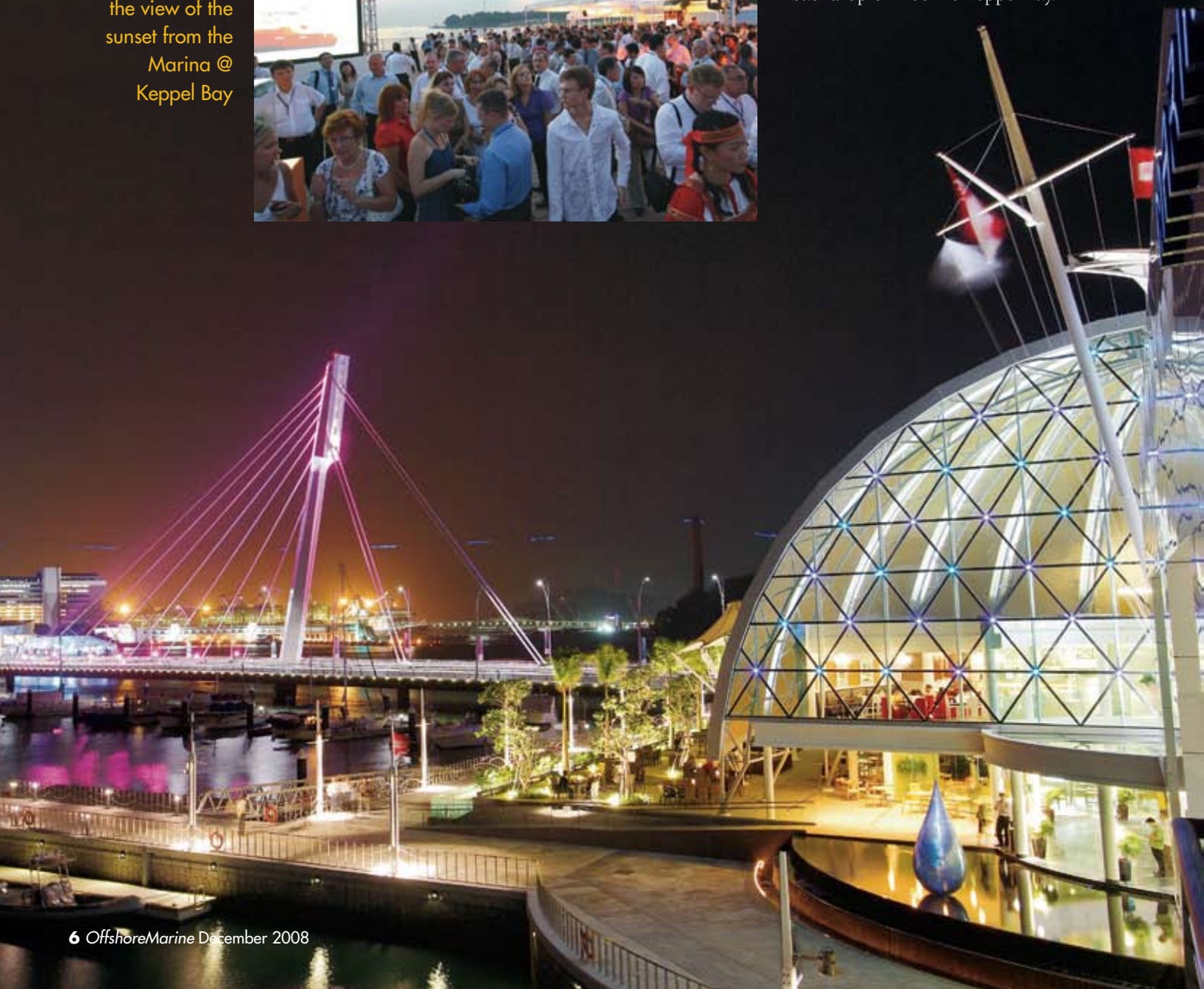
of Singapore's southern coast. Today, the Marina is abuzz in the boating and lifestyle circles as an exquisite venue for recreation, fine dining and events.

The arrival of *Varandey* at Marina at Keppel Bay marked the first time a ship naming ceremony is held outside the confines of a yard, amidst a posh city residence. The event was graced by more than 400 guests from Lukoil, Keppel Singamarine and their associates and vendors.

The Island's seafront boardwalk was transformed into a reception venue steeped in splendid Russian culture. Guests mingled with the company of the magnificent icebreaker, as the vodka bar counter and cocktail tables emblazoned with matryoshka dolls and slavic motifs glowed in the sunset.

And at the stroke of dusk, the *Varandey* was officially named by Lady Sponsor Mrs Lyudmila Velikova with a customary splash of champagne and a spectacular light show. The programme continued through the evening with tours of the icebreaker, lively band performances and Russian gastronomic fare in the lulling backdrop of moonlit Keppel Bay.

Guests of the *Varandey* naming enjoying the view of the sunset from the Marina @ Keppel Bay



F P S O *E s p i r i t o S a n t o* d e l i v e r e d



FPSO *Espirito Santo* leaving Singapore for work in offshore Brazil



The naming of FPSO *Espirito Santo* was a celebration of the partnership between Keppel Shipyard, SBM and Shell



Nelson Yeo (2nd from left) explains the intricacies of the vessel to Lady Sponsor, Mrs Jennifer Howell (left) as (from R-L) CH Tong, MD and COO of Keppel O&M, Louis Chow, GM (Commercial), Keppel Shipyard and Chris Howell look on

**K**eppel Shipyard Limited has delivered the floating production storage and offloading vessel (FPSO) *Espirito Santo* to SBM Offshore. The vessel has left Singapore for deployment in the Espirito Santo field in offshore Brazil.

The FPSO is capable of processing 100,000 barrels of oil per day (bopd) with a maximum storage capacity of two million barrels of oil.

It will be leased to the BC-10 Joint Venture, which is operated by Shell with ONGC Campos Ltda. and Petr leo Brasileiro S.A. (Petrobras) as co-venturers, whilst the FPSO will be operated by a joint venture between SBM Offshore and MISC.

Named at a ceremony recently, the FPSO *Espirito Santo* project has achieved more than six million consecutive manhours without loss time incident (LTI).

This is the second FPSO Keppel has delivered to SBM Offshore this year and the ninth since 2000.

Tony Mace, CEO of SBM Offshore said, "We are impressed with the safe completion of the FPSO by Keppel in a very demanding market. To add another vessel to the lease fleet in Brazil, for the first time for Shell is very satisfactory and we look forward to a successful charter and operating period."

Shell has shown its long-term commitment to safety by joining SBM Offshore in sponsoring programmes as a part of Keppel Shipyard's Safety Excellence 2010 initiative. The initiative was launched in May 2008 and represents the third phase in Keppel Shipyard's safety journey with personal and collective ownership as its theme.

Chris Howell, FPSO Lead from Shell,

# Keppel Shipyard scores another sa





Cheering for safety as FPSO *Espirito Santo* achieves more than six million manhours without loss time incident



The Association of Capoeira Argola de Ouro wowed the audience with their performance of the Brazilian martial art

congratulated Keppel Shipyard on its achievements saying, “Keppel Shipyard’s management has demonstrated a firm commitment to safety, which has led to the major safety achievements being realised on the project. Through proactive measures, the risks to personnel have been reduced and I’m confident that Keppel will be successful as it continues on its safety journey.”

Nelson Yeo, ED of Keppel Shipyard, added, “We are pleased to complete yet another significant project for SBM Offshore and in particular, marking our partnership with Shell on such a good note. We have demonstrated our ability to deliver top quality conversions in a safe and timely manner to SBM Offshore time and again and we will continue to do the same for all our projects.”

Keppel Shipyard’s scope of work included the refurbishment and conversion of the

vessel’s existing systems, upgrading of the accommodation facilities, fabrication and installation of sponson tanks (making the entire hull double sided), the turret mooring system, pipe rack, flare tower and helideck as well as integration of all of the oil processing modules

For the last three consecutive projects executed for SBM, Keppel Shipyard has notched up an impressive 17 million manhours without LTI. In march this year, Keppel Shipyard delivered FPSO *Saxi Batuque* with a safety record of six million man hours without LTI while FPSO *Mondo* which was delivered in November last year had a safety record of 5 million man hours without LTI.

The safe and successful completion of these FPSOs is the culmination of eight years of safety partnership involving Keppel Shipyard and SBM.

# fety record with FPSO delivery

# Princesse Abby christened

Affectionately referred to as “baby” by its owners, a floating crane (F/C) was christened F/C *Princesse Abby* on 10 October 2008. The honour of naming went to 11-year old Lady Sponsor Mbak Abbygail Sardjono, daughter and granddaughter of the owners of PT Mitra Bahtera Segarasejati, in a naming ceremony held at Subic Shipyard and Engineering, Inc. (Subic Shipyard)

“On behalf of our business partners, we sincerely express our deepest gratitude especially to the hard working, quality and safety-oriented workforce of Subic Shipyard, whom we look forward to awarding subsequent projects like these. We congratulate you for all your concerted efforts in the conversion of this magnificent “baby”, as we normally call our vessels, and anticipate working with you on a lot more “babies” in the near future,” beamed owner Ibu Francesca Hadinata.

“This is the second floating crane, after F/C *NICHOLAS* that Subic Shipyard has

converted for our valued customer, PT Mitra Bahtera Segarasejati – Swire, CTM Bulk Logistics. We look forward to a long and fruitful partnership with you,” replied Mok Kim Whang, President and General Manager of Subic Shipyard.

Classed by the RINA Classification Society, the 60 meter by 22.6 meter barge was converted on-time and with zero LTI into a floating crane barge to meet the growing coal demand in the region. The vessel will be deployed to offshore locations or the anchorage in Tanjung Berau, Kalimantan, Indonesia where she will be chartered by Berau Coal, an Indonesian mining firm. *Princesse Abby* will be transferring coal from alongside panamax and handymax sized ocean-going vessels (OGV) to multiple barges.

On hand to witness the event were the project teams, representatives from the charterer group, Berau Coal, main contractor Logmarin, and the owner’s working team, Bancosta, Rina Classification Society, Interprogetti and the crane maker, Liebherr.

11-year old Lady Sponsor receives a gift from Mok Kim Whang





The extension of the lifting capacity radius will mean double banked vessels have the full service of the crane

# Subic Shipyard expands

Subic Shipyard and Engineering, Inc. (Subic Shipyard), an associate of Keppel Philippines Marine, Inc., has rolled out its expansion plan in a strategic commitment to upgrade yard facilities and deliver value to its customers. The project which will be completed by the first quarter of 2010 includes the extension of the graving dock and quay and the construction of a training centre.

“We are laying the ground work for a sustainable business for the long term by ensuring that the yard has the facilities and the skilled manpower to meet the requirements of our clientele,” said Mok Kim Whang, President of Subic Shipyard during the groundbreaking ceremony for the drydock expansion on 11 November 2008.

Equipped to handle VLCCs, containerships and bulk carriers, Subic Shipyard’s existing 350,000 dwt capacity graving dock will be lengthened by 200m. The new 550m x 65m drydock will have an intermediate gate which can be erected at different positions. This will give flexibility for co-drydocking. The vessel in the inner dock can continue her work uninterrupted by the vessel on the outer side of the intermediate gate.

This will be a significant advantage for major conversions or work on serious grounding damages. Additional cranes, dock arms and submersible type pumps will be installed in the expanded drydock. With the lengthening of the drydock, Subic Shipyard will be one of only a handful of drydocks in the world able to take the new generation of super large container vessel in excess of 350m in length.

Subic will take her first vessel into this extended dock in July 2009 while works on the wall/ramp is scheduled for completion by September 2009.

Constructed in 1979, the present 30

metres wide jetty provides anchorage repair works for Panamax and Capesize vessels on both sides. However, the jetty’s existing length has limited the effective service range of its traveling crane when moving equipment to and from the vessel. Under the expansion program, the existing pier will be lengthened by 175 metres. The area is also dredged to efficiently service Capesize vessels on each side.

The expansion program also includes the construction of a bigger and more comprehensive training centre. This component of the project is to ensure a steady stream of qualified and skilled personnel for shipyard operations.



Nelson Yeo and Mok Kim Whang commemorate the ground breaking ceremony for the Subic drydock with the project contractors

# Completing a voyage



(Right to left) Godmother of *Sevan Voyager*, Kim Galavan with Arne Smedal, Chairman of Sevan, David Marshall, SVP Operations of Oilexco and Harold Linssen, MD of Keppel Verolme

**K**eppel Verolme continues to build on its track record of successful conversions of the cylindrical Floating Production Storage/Offloading facilities (FPSOs), with the delivery of the third of such unit to valued customer, Sevan Marine (Sevan).

On 24 November 2008, Sevan and Keppel Verolme celebrated this milestone in the Netherland Shipyard with Godmother of the FPSO, Kim Galavan, VP Corporate Communication of Oilexco North Sea Ltd naming it *Sevan Voyager*.

The FPSO will be operating for Oilexco in the North Sea for a period of five years with five one-year options.

Arne Smedal, Chairman of Sevan, thanked Keppel Verolme in his speech. He said, "The platform arrived in Rotterdam as an empty hull shell without cable and piping. Today, we have in front of us a complete FPSO fully equipped with all systems required for operations, accommodation, cargo holds, cranes, generators, offloading facilities and

processing capabilities to handle up to 30,000 barrels of oil a day.

"I would like to thank Keppel Verolme and their subcontractors for the performance in completing the unit on time. A special thank you goes to the project teams who are on site every day, working hard to execute the project well."

Prior to *Sevan Voyager*, Keppel Verolme had previously converted two other units, *Sevan Piranema* and *Sevan Hummingbird*, for Sevan. Both units are fully operational in the Piranema field, offshore Brasil and in the UK Chestnut oilfield in the North Sea respectively.

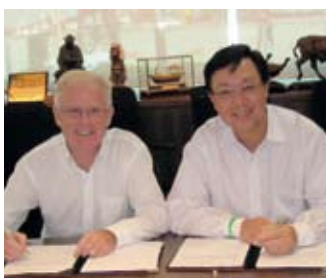
Harold Linssen, MD of Keppel Verolme, reiterated the yard's commitment to deliver value-added solutions to customers. He said, "We are honoured that Sevan has entrusted us with the conversion of three of their FPSO units, we look forward to more collaborations and remain committed to deliver projects, on time, within budget and to your utmost satisfaction."

# Keppel FELS delivers fourth Sinvest jackup drilling rig on time

*Deep Driller 6*, a KFELS Super B Class rig is one of the world's deepest drilling rigs. It will be the fourth such rig delivered to Sinvest



Signing the protocol of delivery are Michael Chia (right), Executive Director of Keppel FELS and Tom Mikkelsen, CEO of Sinvest



Continuing to build on its track record of timely deliveries, Keppel FELS has delivered the jackup drilling rig, *Deep Driller 6*, to Sinvest AS (Sinvest), a subsidiary of Aban Singapore Pte Ltd (ASPL) on time and within budget.

*Deep Driller 6* is the fourth unit to be delivered in a series of five KFELS Super B Class rigs built for Sinvest. The fifth rig is on track for a timely delivery in the first quarter of 2009.

The KFELS Super B Class design is one of the world's deepest drilling rigs, with capabilities for drilling High Pressure, High Temperature wells up to 35,000 ft at 350 ft water depth.

"We are pleased to work with Keppel FELS in boosting ASPL's capacity and offerings to our global clientele. Keppel has once again demonstrated that their commitment and expertise in project execution and management

is second to none," said Reji Abraham, MD of Aban Offshore Limited.

"With the on time delivery of the *Deep Driller 6*, we are progressing well towards having our entire offshore fleet operational by early 2009.

CH Tong, MD & COO of Keppel O&M, said, "ASPL has entrusted us with the construction of about half of their 11 strong jackup fleet. We are privileged indeed to be a part of their efforts to become a global industry leader.

"With a strong orderbook extending into 2012, we are determined to execute our current projects well, and to continue delivering high-quality solutions to our valued customers."

To date, 24 KFELS B Class rigs have already been delivered with another nine in various stages of construction.

# Ice-Class FSO reaches CSC



The hull was temporarily joined together and first launched from Keppel Singmarine's slipway. The hull strips were then separated, to be loaded on a barge for its journey to Baku



Crossing the narrow Volga-Don Canal



The hull strips and other sections of the Ice-Class FSO arrived in Baku, on schedule and in good condition

Keppel Singmarine's construction of its first Ice-Class Floating Storage Offloading (FSO) vessel charted another milestone when her two hull sections, living quarters, helideck and other equipments arrived at Caspian Shipyard Company (CSC) in Baku in good condition.

The FSO's hull was built as two separate sections so that they could be towed through the famous narrow Volga-Don canal which has strict restrictions on height, width and draft including the air draft. The maximum allowed vessel size is 140 m long, 16.6 m wide and 3.5 m deep.

Through Keppel's design and engineering capability, they had to specially design and build the hull in longitudinal halves for transport and transit across the inland canal waterways into the Caspian Sea. The hull would then be joined together at CSC.

Project Manager, Lee Yoong Hoong, said, "This is a unique and complex project. It is our first time to build an Ice-Class FSO. It is also our first time to build it in two longitudinal halves. It is a challenge which I think the team has responded to very well. We are all very proud of what we've achieved as we had to bring together different engineering from different locations within a very tight timeframe."

Over the past weeks, Bluewater Shipping has been transporting the FSO sections and equipment more than 11,000 km from Keppel Singmarine in Singapore to Baku, Azerbaijan.

As CSC begins to put together the module pieces, the FSO is planned for delivery to LUKOIL-NIZHNEVOLZHSKNEFT in the middle of 2009. This vessel, with oil storage capacity of approximately 28,000 tonnes, will be deployed in the Yuri Korchagin Field in the Russian Federation sector of the Caspian Sea.

She is designed with provisions for forecastle deck structure for single point mooring, with double bottom and double shipside hull, with a superstructure for 32 men and a Cargo Oil Control Station, machinery space and helipad in the mid section.

She is meant for uninterrupted services in receiving crude oil from a stationary production platform through single buoy mooring system, storage of oil on board and finally offloading of oil to shuttle tankers.



Striking steel for QGOG's semi



On average, more than 400 ships undergo repairs at Keppel Shipyard in a year

# Hustle and bustle of the yards

## Excellence in execution

**F**ocused on delivering quality projects on time, within budget and without incidents, Keppel FELS continues to achieve project milestones as scheduled.

On 1 November, Brazilian drilling contractor group Queiroz Galvão Óleo e Gás (QGOG), held a strike steel ceremony for their semisubmersible (semi), *Alpha Star*.

The ceremony marked the start of the rig's physical construction phase.

This deepwater unit is built to Keppel's proprietary DSS™ 38 design. Rigs of this design are rated to drill to depths of 30,000 feet in 9,000 feet water depth.

Contracted earlier this year, *Alpha Star*, is the second of two similar semis Keppel FELS is constructing for QGOG.

## Steady as she goes for shiprepair

Keppel Shipyard has maintained its steady shiprepair workload for the past 10 months with more than 300 vessels repaired to date. It has also completed significant repair works on VLCCs and Gas Carriers as well as a fair number of Tankers and Containerships this year.

Some major repair works completed recently includes the repair of *Tosca*, a vehicle carrier for Wallenius Marine. Major works consists of 125 tonnes of steel renewal in the water ballast tanks and ramps, hydro-jetting of 6 tanks, overhaul and repair of ventilation system, installation of rescue boats and the repair of the ramps.

Repairs were also carried out on LNG carriers *Maersk Qatar* for A.P. Moller and *Dwiputra* for Humolco Trans Inc. The vessels underwent among other things,

overhauls of the pump, main boilers and turbines, tank inspections and electrical works.

Works on the Very Large Crude Carriers (VLCCs) were conducted for K-Line Shipmanagement on *Kumanogawa*, World Tankers Management on *Protaras*, Frontline/V-Ships UK on *Front Highness*, and MOL Tankship Management on *Ohminesan*.

Containerships that came in for repair recently include the *Sofie Maersk* of A.P. Moller, the *APL Hongkong* of Shoeni Kisen Kaisha, and the *Indamex Cauvery* of ER Schiffahrt GMBH & CIE KG.

Keppel Shipyard's expertise and long experience in shiprepair enable it to turnover jobs quickly and to the customer's satisfaction which has resulted in forward bookings from many repeat customers.



Construction for the jetty begins

## Building a new jetty

**K**eppel O&M is focused on enhancing its capabilities to achieve excellence in project execution.

Its wholly-owned subsidiary, Keppel FELS, recently broke ground for a new 300 metre-long jetty at its premises in Pioneer Yard on 7 November 2008. The jetty is an extension of the yard's south quay.

Attending the groundbreaking ceremony were Keppel O&M's Board of Directors, Keppel FELS senior management and staff from Antara Koh, the engineering firm constructing the jetty

CB Choo, Chairman & CEO of Keppel O&M, addressed guests and colleagues at the ceremony, "In view of these challenging times, we must continue to build and sharpen our core competencies to weather the rough seas ahead of us.

"The new extension will allow Keppel FELS to meet its existing contract obligations and prepare for the future. The shipyard is expected to deliver 14 projects in 2009.

"We will expand our capacity in a prudent manner to meet our contractual obligations and for future growth."

The jetty, when completed by end-2009, can accommodate up to four semisubmersible (semi) or six jackup rigs or a configuration of two semi and three jackup units for outfitting works.

CH Tong, Keppel O&M's MD & COO, shared, "Keppel has always been building our capabilities in good times and bad. This new jetty will not only enable us to better execute our projects on hand, it will also prepare us to take on more deepwater projects as hydrocarbon exploration and production move into greater depths."



# Thumbs up for E8500



Thumbs up to Chandru (second from left) and his commissioning team for a job well done

**K**eppel FELS has delivered the *ENSCO 8500* to ENSCO. She is the first rig in the fleet of seven new ENSCO 8500 Series® semisubmersibles (semi) Keppel FELS is constructing.

Named this year in June, the rig completed its commissioning tests in September and was duly delivered.

Ron Couet, Manager Singapore Projects of ENSCO commended Keppel FELS' commissioning team. He said, "The team did everything humanly possible to complete the commissioning of the equipment. We from ENSCO's Senior Management down, recognise the outstanding job that the commissioning team did."

"Once again, thanks for a job well done! You are all a very impressive, professional and experienced group!"

This new deepwater rig has been contracted in the Gulf of Mexico to Anadarko and Eni.

ENSCO, headquartered in Dallas, Texas, owns and operates a modern fleet of offshore drilling rigs servicing the petroleum industry on a global basis.



Keppel FELS is currently constructing another six similar semis for ENSCO

## *PV Drilling I* achieves Vietnam's deepest well

Vietnam's first fully-owned rig, *PV Drilling I*, has achieved the longest basement well drilled in the country.

Operating in the Cuu Long Basin offshore Vietnam, the rig drilled to a depth of 6,526 metres, more than 12 times the height of the world's tallest completed building, the Taipei 101 in Taiwan.

To reach the depth of 6,526 metres, *PV Drilling I* had to drill through 2,238 metres of granite. The rig then continued to drill the remaining depth to arrive at the longest well in Vietnam, five days less than anticipated with an excellent safety record.

Built to Keppel's proprietary KFELS B Class design, *PV Drilling I* was delivered to PetroVietnam Drilling and Well Services Joint Stock Company in March 2007.

This rig design has been chosen by oil companies and drilling contractors as a benchmark for jackup rigs in worldwide operations.



Sealing the training partnership are (L-R) Chee Jin Kiong, Keppel O&M ED of HR; CH Tong, Bob Tan, CB Choo, Bruce Poh and Tan Seng Hua, Principal, ITE College Central

Workers and su

# Centre of excellence for technical skill

People development is one of Keppel's core values. We constantly encourage our people to make the value of 'Innovation and Learning' a lifelong goal. We believe that every organisation is only as good as the people it has.

CB Choo, Chairman & CEO of Keppel O&M, shared this at the launch of the Keppel Offshore & Marine Group Training Centre (Keppel O&M Training Centre).

The official opening of the new technical and specialised skill training centre on 29 October 2008 by Bob Tan, Chairman of the Institute of Technical Education (ITE), is in line with Keppel O&M's commitment to build a formidable workforce.

CB Choo added, "The Keppel Group's reputation as a world leader in the offshore and marine industry has been built upon the continuous equipping of our workforce to offer world-class services to our customers.

"In building this new facility, we want to nurture our direct and indirect employees, and where possible, raise the standards of skills competencies in the industry and in the global markets where we operate."

The Centre will be a one-stop training facility where employees and subcontractors can register for courses, undergo training, receive certification and apply for relevant trade licences. The Centre is expected to provide 3,500 training places per annum.

The courses are developed in-house as well as with strategic partners including government agencies such as the Ministry of Manpower and Workforce Development Agency, technical education institutes like ITE, NTUC Learning Hub and Workplace Safety Council and industry partners such as the Association of Singapore Marine Industries, classification societies and customers.

CB Choo explained, "It is only when we share knowledge and best practices with

progressive partners that we can develop a world-class workforce."

"A committed and competent workforce will separate those companies who will continue to do well in difficult times from those that perform well only when the market is good. Keppel O&M's commitment to training and development of your people is among the best in the industry."

## Joint-certification with ITE

At the ceremony, Bruce Poh Geok Huat, Director & CEO of ITE and CH Tong MD & COO of Keppel O&M also signed a Memorandum of Understanding (MOU) that saw the creation of Singapore's first offshore and marine joint-certification training programme.

Under the MOU, Keppel O&M and ITE will jointly set up the Marine Offshore Technology Workshop at the ITE College Central. Keppel O&M will provide the



Contractors will benefit from the new training centre



Touring the new facility

# training

equipment and technical support for the centre and offer 10 scholarship awards annually for the next five years for students pursuing the Higher Nitec in Marine Offshore Engineering course at ITE. Keppel O&M and ITE will also develop joint-certification training programmes.

Bruce commented, “Youths seeking to build a career in the marine industry will greatly benefit from Keppel O&M’s scholarship initiative. Our partnership with Keppel O&M will also augment the training curricula and programmes in the field of offshore and marine, bringing us closer to our national goal of making Singapore a centre of excellence in this industry.”

Established in 1992, ITE is a post-secondary institution that provides pre-employment training to secondary school leavers and continuing education and training to working adults.

## Partners speak . . .

“At WDA, our vision is to build and sustain a competitive workforce that learns for life. We are happy to be working with Keppel Offshore & Marine Group Training Centre on skills upgrading that benefits workers and the industry.”

**Goh Eng Ghee**  
Deputy Chief Executive  
Workforce Development Agency

“We constantly seek out good and reliable partners to co-train our workforce to meet the new demands of the industries. Keppel Offshore & Marine Training Centre is one of our preferred partners.”

**Chan Mun Kitt**  
Director  
NTUC Learning Hub

“ASMI is helping to realise a vision of excellence in the offshore and marine industry. We are an Accredited Training Provider under the Ministry of Manpower, to conduct and certify training courses for marine workers. Keppel Offshore & Marine is one of our approved training centres.”

**Winnie Low**  
Executive Director  
Association of Singapore Marine Industries

“ITE is a Training Institution committed to excellence. As we launch our next phase of development to be a global leader in technical education, we are happy to partner Keppel Offshore & Marine Training Centre to equip our students with the latest technical skills and knowledge needed by the Marine Industry.”

**Lim Teck Lee**  
Director, School of Engineering  
Institute of Technical Education

# Nurturing leaders of tomorrow



Participants of the Keppel O&M Global Young Leaders Programme engage in discussions to explore ways of effective managing

**31** promising Keppelites were trained in leadership development during the Keppel O&M Global Young Leaders Programme held from 2 to 11 October 2008, a collaboration between Keppel O&M and Nanyang Business School, Nanyang Technological University (NTU).

The programme, one of a series of enhanced Management Development Programmes under the Keppel O&M College flagship, aims to hone the leadership, strategic thinking and management skills of the participants to enable them to achieve a more rapid career advancement.

The participants are aged 35 years and below with about 80% of them overseas-based. This is a select group of individuals who have an excellent track record performance, high potential and demonstrated Keppel O&M core values.

Marrying leadership development with succession planning is integral to ensure

a healthy succession pipeline of leaders to perpetuate the strong Keppel culture and bring the Group to new and greater heights.

Addressing the participants on the first day of the programme, CB Choo, Chairman & CEO of Keppel O&M, said, "Talent management and succession planning is taken very seriously here at Keppel O&M. In talent development, we focus on the topmost tier of the high potential and high performing talents to ensure that you get developed and have opportunities to be tested in leadership positions and in driving results.

"Notwithstanding the market place leadership position which Keppel O&M helms, we always believe there are opportunities for continual improvement. I am confident that you will maximise your learning by applying your new competencies and knowledge acquired from this programme to the improvement of the organisation."

During the week, groups of participants from

Keppel O&M and the group's business units worldwide worked on a project to present to Keppel O&M's senior management. The subjects included Finance for the Non-finance Managers, Building Effective Teams and Creative Thinking. Joining them were eight other participants from the various Keppel business units.

The participants presented with flair, enthusiasm and confidence and were commended by CH Tong, Keppel O&M's MD & COO, who welcomed their proposals of new ideas and efforts to challenge the conventional. He emphasised that these presentations were not merely an academic exercise but were meant to encourage the application of the proposed ideas for improvements to be implemented across the Keppel group.

Yelena Rzayeva, Accounts Officer, Caspian Shipyard Company, shared, "We take the presentation very seriously. The discussion among our team was time well spent and I feel that I will be able to apply my new knowledge and competencies acquired from this programme."

This being Yelena Rzayeva's first time in Singapore, she joked about the lack of time to visit the many places of interest in Singapore due to the late nights spent completing the project.

Another participant, Ben Goh, Vice President (Operations), Keppel Cebu Shipyard said, "Keppel Group is likened to an orchestra made up of people from different cultures and rhythms. This programme offers a strong platform for meaningful interaction across the different business units, making the orchestra sound better. It gives us a good chance to brainstorm on how to further improve and strengthen our organisation."

Josephine Chinying Lang, Associate Professor, NTU commented, "The collaboration is of mutual benefit to both NTU and Keppel. It provides a valuable opportunity for NTU

professors to keep in touch with what is happening in the corporate sector. For Keppel participants, this is an opportunity to advance their knowledge in specific domains and develop key leadership competencies."

The enhanced Management Development Programme series also include the Advanced Management Programme as well as the General Management Programme. Workshops and courses are some of the tools Keppel O&M uses for human capital development.



# First in Southeast Asia

**K**eppel FELS has the distinction of being the first company in Southeast Asia to be a Det Norske Veritas' (DNV) certified company for Non-Destructive Testing (NDT).



In order to be certified as a DNV approved firm, the company must undergo a stringent programme and pass various tests. DNV sets one of the highest standards for the performance of NDT.

Johan Gärdin, DNV Head of Offshore Class in Southeast Asia, said, "It is important that DNV is able to trust the reports that we are presented with as well as the skills of those who are writing them.

"Keppel FELS is the first company in Southeast Asia which passed the rigorous examination, including practical operator

**Chandru (left) receives the Certificate of Approval from Gärdin**

skill tests specified in the new DNV Approval Program 402B."

NDT involves the use of radiography and ultrasound as primary methods to test for defective welding in metal structures. In Keppel FELS' case, these tests are done on projects in the yard as well as in challenging situations when the rigs are out at sea. In both scenarios, accurate and consistent results are critical.

Chandru Sirumal Rajwani, GM (Quality Assurance/Commissioning) of Keppel FELS shared, "Subjecting ourselves to audit by a third party is testament to our commitment to deliver high-quality products to our customers. With this certification, owners can now be assured of an excellent job done on their rigs, something they have come to expect from Keppel FELS."

# Shipshape for the future

**K**eppel Verolme was conferred the Golden Gazelle Award 2008 by Financieele Dagblad (FD), a renowned Dutch Financial Newspaper, in the category of large companies with turnover of EUR 30 million or more.

The Award recognises Keppel Verolme as the fastest growing company in the region of South Holland.

Mr Jan Franssen, Commissioner of the Queen in the Province of South Holland, presented the award to Harold Linssen, MD of Keppel Verolme on 20 November 2008 in The Hague.

Harold said, "This is an excellent result. We have bettered our second place from last year to achieve top honours. Our robust turnover increase over three years is a ratification of the enormous commitment and professionalism of our people."



**Harold (right), MD of Keppel Verolme receives the award from Mr Jan Franssen, Commissioner of the Queen in the Province of South Holland**

# Top 100



Minister for Trade and Industry, Lim Hng Kiang (centre), presents the SI 100 awards to CH Tong (left) and Michael Chia, ED of Keppel FELS

**K**eppel O&M and Keppel FELS are ranked amongst the top 100 Singapore companies with high overseas revenues. The companies came in sixth and 11th respectively in a ranking of Singapore's top 100 companies by IE Singapore, with DP information Group as the ranking partner.

The SI 100 Ranking 2008 tracks the overseas revenue contributions of participating companies for the financial year between 1 January 2007 to 31 December 2007.

Receiving the award on behalf of Keppel O&M, CH Tong, MD & COO of Keppel O&M said, "Our customers are from all over the world. In order to be their partner of choice, we have to be where they are. This strategy has made us the world leader in our business and the growth of our overseas revenue demonstrates this. We are happy to win this award and will continue to pursue our near market, near customer strategy."

## Keppel named as Best Shiprepairer

**K**eppel Shipyard was honoured at Lloyd's List Asia Awards on 15 October 2008 for being the best Shiprepair yard for the fourth year running.

Selected by an independent panel of marine industry experts worldwide, the award recognises the shiprepair yard in Asia for meeting the needs of its regular customers and being able to offer cost effective and quality services, with a constant eye on yard safety.

Keppel Shipyard's Executive Director, Nelson Yeo, who received the award, said, "Keppel is very blessed because we have a lot of supportive and good people working with us and we have supportive customers."

**Nelson, receiving on behalf of Keppel Shipyard the award for best shiprepair yard at the 10th Lloyd's List Asian Awards**

Congratulating the shipyard, Keppel O&M's Chairman & CEO, CB Choo said, "Keep up the good work! Customer satisfaction, great execution and financial performance are crucial in good and bad times."

In support of the awards, Keppel O&M sponsored the Asian Container Shipping Line of the year award which was presented by Charles Foo, MD of Keppel O&M (Special Projects).



Keppel Shipyard was also nominated for the Achievement in Safety & Environmental Protection Award while Keppel Singmarine was nominated for the Shipbuilding Award.



National pride – H.E. President Lula (raising Brazil's national flag) and First Lady Marisa Leticia (on his right) with workers of Petrobras and Keppel FELS Brasil celebrating the naming of P-51

Keppel/Technip consortium has delivered the *P-51* to Petrobras

# New star of BrasFELS Yard



The consortium of Keppel O&M and Technip Engenharia S/A has delivered the P-51 floating production unit (FPU) to Petrobras Netherlands BV (PNBV).

The rig left Keppel FELS Brasil's Brasfels Yard on 21 November 2008.

The 48,000 tonne FPU is the second such rig that the consortium partners have completed. The first rig, the P-52 FPU, is currently producing in the Roncador field.

A grand christening ceremony was held for the P-51 FPU on 7 October 2008.

His Excellency President Luiz Inácio Lula da Silva of Brazil and First Lady Marisa Letícia Lula da Silva who was the Lady Sponsor, graced the christening ceremony at Keppel FELS Brasil's BrasFELS shipyard.

They celebrated with some 5,000 Brazilian workers on the achievement of the national project.

Like the P-52, the P-51 realises the country's aspiration to rejuvenate its shipbuilding industry and become a net oil exporter. It will support Petrobras' offshore oil exploration and production activities, contributing significantly towards Brazil's self-sufficiency in oil production. The making of the two rigs has also enabled significant technological and knowledge transfer to Brazil.

With the P-51, Keppel's projects for Petrobras will contribute at production capacity more than 1 million barrels of oil per day (bopd). This represents over 50% of Brazil's present production rate of 1.8 million bopd. In 2010, when it reaches its top operating capacity, the P-51 will account for 8% of Brazil's domestic oil production.

The project also won accolades from Petrobras for excellence in project management and execution through the PRODEP award for two consecutive years in 2006 and 2007.



**Celebrating the success of P-51's construction, CB Choo presents H.E. President Lula with a gift from Singapore symbolising health and prosperity**

CB Choo, Chairman & CEO of Keppel O&M, said, "Keppel is a long term and serious investor. We are committed to support Brazil in its aims for local contents and to realise its goal as a net oil exporter. We are privileged to play a part in the Brazilian Government and Petrobras's ambition to have the platform P-51 rig built almost entirely in Brazil using Brazilian workers.

"This is part and parcel of Keppel O&M's Near Market, Near Customer Strategy. It is our mission everywhere we set up operations, to lend full support to our customers to reach their goals.

"We are close to completing the P-51 and will continue to service Petrobras in its other projects including the P-56. We hope to build more rig projects for Petrobras here in BrasFELS. We are honoured to be able to help further enhance the close relationship between Singapore and Brazil, as well as that of Keppel with Petrobras."

The P-51 is an FPU that stands 34 storeys high and 10 Olympic swimming pools wide. The platform will be anchored in water depths of 1,255 metres in the

Marlim Sul field, in the Campos Basin in Brazil, and will have the capacity to produce 180,000 bopd with medium API gravity of 28 and 6 million m<sup>3</sup>/day of gas.

In addition to the P-51, the Keppel/Technip consortium is also building the P-56, which had in September 2008 achieved the completion of the first block and one million manhours without lost time incident. Identical to the P-51, the P-56 will be the third FPU constructed by Keppel FELS Brasil and will help create and sustain employment in Angra dos Reis.

In Brazil's bid to become a net exporter of energy, its national oil company, Petrobras, has a planned investment of more than US\$ 112 billion for 2008-2012 and about 60% of the budget has been allocated for exploration and production. It has also announced plans to build and convert more floating production units such as semisubmersibles and floating production storage and offloading facilities (FPSOs).

*Continued on page 26 ►*

## Sterling milestones

The column nodes of the *P-51* were completed in Singapore and transported to BrasFELS across 15,000 km



### May 2004 *P-51 contract secured*

The work was divided into three portions. Detailed engineering and construction of the corner nodes of the lower hull were to be carried out by Keppel FELS in Singapore. Part of the lower hull was subcontracted to the NUCLEP yard, a state-owned fabrication and maintenance enterprise.

Fabrication of the rest of the lower hull, deckbox, topside, accommodation and modules, as well as the commissioning and pre-operations start-up were handled by BrasFELS. Technip was to be responsible for the overall engineering and detailed engineering of the deckbox and offshore mating and transportation.

The three images depict the successful mating of the 'C' sections of the *P-51* which was the result of strong technical capabilities and team work



### December 2005 *Singapore workscope completed*

The four 1,000-tonne column nodes of the *P-51* were loaded onto the heavylift transporter vessel, *Tern*, for its 15,000-km journey across the Indian and Atlantic Oceans to BrasFELS in Angra, Brazil.

The successful loading and sail-away had taken weeks of careful planning and management in preparations, and marked the completion of the Singapore scope for the *P-51*.

### November 2006 *Joining of 'C' sections*

Dubbed as one of Brazil's unprecedented operations, the integration of the two

(From top) The largest skidding operation in Brazil saw the 13,000-tonne deckbox positioned with precision above the barge *FS-1* for the marine mating of the *P-51*'s topside and lower hull; *P-51* towed out of the yard



sections marked an important milestone for the BrasFELS yard and Brazil's offshore industry.

It also represented the success in the transfer of technology between Singapore and Brazil.

When Keppel FELS undertook the mating of the two sections for sister vessel, *P-52*, in Singapore in July 2005, the Brazil team was on the ground to observe and understudy the integration process.

Adopting the same concept of temporary cofferdams, planning for *P-51*'s integration started almost immediately. A plan was developed and tested virtually before actual execution.

The two 'C' sections were launched

The installation of the *P-51*'s flareboom before the mating resulted in valuable cost and time savings



respectively from the slipway, before the much-anticipated integration on 28 November 2006. It was a magnificent feat as it was the first time such an operation was executed in Brazil, demonstrating the technical skills and capabilities of the shipyard.

**June 2007**  
*Brazil's largest skidding operation*

The BrasFELS yard completed the largest skidding operation ever performed in Brazil, where the 48-hour process saw the approximately 13,000-tonne *P-51* deckbox skidded 120 metres from Slipway No. 3 into position above Keppel FELS Brasil's barge, *FS-1*. Measuring 120m x 47m x 9m, this same

barge was also used as the foundation on which the *P-52* deckbox was built.

**April 2008**  
*Mating of decks*

Considered one of the major challenges, the marine deck-mating of the upper deck and lower hull was carried out after meticulous planning and extensive risk assessment procedures.

The operation involved positioning the *FS-1* barge, on which the upper deck was located, above the submerged lower hull. Therefore, the spider deck (lower deck) hoisting is performed.

The innovative approach in engineering

undertaken by BrasFELS also enabled the flareboom to be installed before the mating, resulting in valuable cost and time savings.

**November 2008**  
*Departure from Brasfels*

*P-51* sets sail towards the Ilha Grande Bay, where it will be submitted to final testing and adjustments before kicking-off operations in the Marlim Sul field, in the Campos Basin.

After the testing period, which is expected to last about 15 days, the *P-51* will be anchored in the Marlim Sul field, at a depth of 1255 meters and 150 km off the coast.

*Continued on page 28* ►

## Talk of the town

“The *P-52* was an important learning model which improved and benefitted the construction of the *P-51*. The exchange of ideas and transfer and technology between Singapore and Brazil during the *P-52* construction, as well as close cooperation and communication between the project teams for *P-52* and *P-51*, have been invaluable to the successful completion of *P-51*.”

The *P-51* is a mega project that is the result of massive commitment and team effort, and will further enhance the BrasFELS yard’s capabilities to smoothly carry out future projects like the *P-56*.”

**Eduardo Nunez,**  
*President of BrasFELS*

“The *P-51* has truly contributed to fulfilling a Brazilian dream, with the significant localisation of work in Brazil and construction with high national content.

Not only is it one of the largest platforms in the world, it is the first semisubmersible floating production platform almost completely built in Brazil by Brazilian workers, with more than 6,000 direct and indirect workers employed in the yard to build this giant platform.”

**José Pedro Mota,**  
*Project Director of P-51*

“At BrasFELS, we are relentless in instilling safety as a core value. A crucial factor for the success of *P-51* is our focus on safety.

From management personnel to the shipyard workers, we consistently upheld excellent safety standards and sought to improve ways to ensure that everyone goes home safe and sound. For a mammoth project like the *P-51*, every single worker’s commitment to safety has contributed to this major accomplishment.”

**Luis Queiroz,**  
*HSEQ (Health, Safety,  
Environment & Quality)  
Manager*



## Making history in Brazil

The naming of the *P-51*, a mammoth semisubmersible, built almost completely in Brazil by Brazilians, its naming was a historical event not only for the Keppel yard, but for Brazil. Together, they have helped fulfil national aspirations and provided employment for thousands.

Every worker hired at the yard represented a family that was fed and clothed with the jobs created at BrasFELS. Every pair of hands contributed to realising the dream of the *P-51*, the first floating production platform with significant localisation of work and content in Brazil, possible.

Furthermore, it is the only yard in the world which can claim to have constructed not one, but two of the largest FPU's in the world, the *P-52* and the *P-51*, in quick succession of each other.

Across borders and business units, these achievements of the Keppel yard in Angra are a source of pride and inspiration for all Keppelites. For not only in Brazil but also in the other markets and business segments where we operate, the *Can-do!* Spirit of Keppelites have, and will continue to make history.

Continued on page 30 ►

Colours of BrasFELS



## Realising dreams at BrasFELS



Finding love and work are Josimar and Debora at BrasFELS

### Improving their lives

Not only are they happy to see each other everyday at home, work and play, Josimar Motta Da Silva and Debora Das Monteiro Motta are grateful to have been hired by Keppel FELS Brasil's BrasFELS yard at the same time, since some two years ago.

Then, they had joined the six-month long Young Apprentice Course offered by BrasFELS. Spending time together when undergoing the course sealed important decisions for their lives. Not only had they found a company they were proud to work for, they also found true love. The pair married in December 2006.

Today, 21-year old Josimar is a piping and welding worker on the *P-51* while Debora serves in the Maintenance department. Appreciative of the learning opportunities at their jobs which has shown them the possibilities of achieving more in their lives, the young couple is eager to pursue their dreams.

Josimar is currently taking night classes and aspires to become a chemical engineer in the oil and gas industry while Debora is working towards her goal of becoming an architect. Both are aiming to finish their college education before having children.

With big dreams in the pipeline, the duo is not letting any precious time slip away as they work hard at BrasFELS to better their lives.

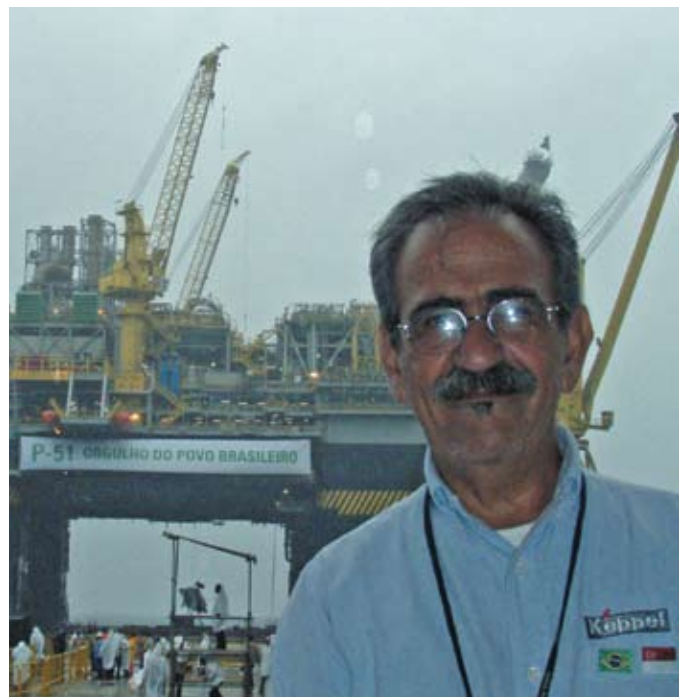
### Triple celebration

For Luiz Rodrigues who works at BrasFELS as a translator, the christening of the *P-51* was special cause for a triple celebration.

Not only was the 65-year-old celebrating his birthday on the same day as the naming of the *P-51* on 7 October 2008, the following day marked the eight year anniversary of his employment at BrasFELS.

"I joined BrasFELS in 2000, shortly after the BrasFELS yard was established. I am proud to be a part of this yard which has produced really impressive mammoth projects. I have witnessed not just one but two important projects, the *P-52* and the *P-51*, being completed here," shared Luiz.

Alongside thousands of workers who celebrated the milestone with guests of honour, President Luiz Inácio Lula da Silva of Brazil and First Lady Marisa Letícia Lula da Silva, Luiz looked forward to celebrating more personal and professional milestones with his colleagues at BrasFELS in the years ahead.



Luiz Rodrigues celebrates his birthday and that of a new star, the *P-51*, at BrasFELS

## Showcasing Rio's best



### Renewing ties with customers and industry players at Rio Oil & Gas 2008

Reeling in visitors at the latest edition of Rio Oil & Gas Expo and Conference was Keppel FELS Brasil's show booth, exhibiting the latest projects being constructed in its BrasFELS yard, including the model of floating production unit (FPU), the *P-51*.

Held at the Riocentro Convention Centre in Rio de Janeiro, Brazil on 15 to 18 September 2008, the biennial show started in 1982 and has grown to become the largest Latin American oil and gas trade exhibit and conference.

More than 35,000 people were estimated to have visited the show, one of the largest oil & gas events in the world, organised by Brazilian Petroleum and Gas Institute (IBP).

YY Chow, President of Keppel Offshore & Marine, Americas, said, "Our 'Near Market, Near Customer' strategy has helped us serve our customer, Petrobras' needs and support Brazil's pursuit of national content as they expand oil and gas production capacity.

"Our participation in this Expo demonstrates Keppel's continuing commitment to enhance and grow our relationship with Brazilian offshore oil and gas companies and to strive to be their strategic partner of choice."

Rio de Janeiro is reputed to be Brazil's oil capital, accounting for over 80% of national production, housing government-owned Petrobras' headquarters as well as the main offices of all foreign oil companies currently prospecting oil in Brazil.

Since 2000, Keppel FELS Brasil has been operating in Rio with its BrasFELS yard in Angra dos Reis, carrying out significant projects contributing to the development of Brazil's oil and gas industry.

The Expo also offered an opportunity for management of Keppel FELS Brasil to strengthen networks with key players and to reinforce Keppel's position as a prominent player in the oil and gas industry in Latin America.

### Safety runs in the family for *P-56*

Sister rig, the *P-56*, celebrated one million man-hours without lost-time incidents shortly before the christening of the *P-51*.

The good news were shared during the Safety Daily Dialogue on 23 September 2008. In recognition of everyone's efforts to contribute towards a safe work environment, four bicycles were given away to employees involved in the *P-56*, by lucky draw.

Also in September, Brazilian engineering company NUCLEP delivered the first of 28 structural blocks for the lower hull of the *P-56* to BrasFELS. Construction of the blocks began in April this year, with the full order set expected to be delivered in the next 18 months.

The *P-56*, based on the design of the *P-51*, will weigh 50,000 tons and will be one of the largest in the world. Capable of processing and treating 170,000 barrels of liquids and 100,000 barrels of 16° API oil, 6 million cubic meters of natural gas, and of injecting some 280,000 barrels of water in the reservoir, the *P-56* will be connected to 22 wells, 11 of which are oil and gas producers and 11 are to inject water.

The *P-56* will operate in the Campos basin's Marlim Sul field. After the *P-51* and *P-52*, the *P-56* will be the third semi-submersible production platform built by FSTP, a 75/25 consortium company between Keppel O&M and Technip.



**Safety rewards – Eduardo Nuñez, President of BrasFELS (right) congratulates the proud winner of a new bicycle**

# Keppel FELS tops nation for innovation

**K**eppel FELS has won the MAXA 2008 Award, which recognises the highest global standards in manufacturing innovation, operational excellence and sustainability.

This MAXA Award, the first for a Singaporean enterprise, was presented to Keppel FELS by Professor S. Jayakumar, Deputy Prime Minister and Co-ordinating Minister for National Security, at a ceremony on 7 November 2008.

“We envision MAXA to be a recognition of manufacturing excellence in Singapore, and a sharing of thought leadership and best practices,” said Deputy Prime Minister, Professor S. Jayakumar, at the award ceremony.

“Keppel FELS is a Singaporean company that has grown over the years, which now has a global presence. It pursues progress relentlessly, resulting in the Company developing strong competencies in design engineering, project

management and manufacturing. In the area of manufacturing, Keppel FELS has brought a unique methodology to its rigbuilding operations,” he added.

Keppel FELS was the only offshore mega-structure company among the six finalists hailing from across the electronics, semiconductor and bio-medical sectors. The Company was singled out for its success in integrating the best of both project and manufacturing approaches into its operations.

“Keppel FELS entered the MAXA Awards with the aim of learning and improving ourselves. We have benefited from the independent and in-depth review of our strengths and capabilities by the international experts on the MAXA assessment team,” said CH Tong, MD of Keppel FELS Ltd.

“Winning the top award is a bonus to Keppel FELS. It affirms our passion and commitment

Reckoned with the best –  
(From left) Deputy Prime Minister, Professor S. Jayakumar; CH Tong; MD of Keppel FELS; Professor Lord Kumar Bhattacharyya, Chairperson of the MAXA judging panel and CB Choo, Chairman & CEO of Keppel O&M





# on and excellence

to deliver innovative projects on time, within budget and without incidents,” CH Tong added.

“In a business which is very much project centric, we have broken from our traditional ways to adopt a manufacturing approach in the construction of our rigs, thus, shortening the lead time and improving our overall efficiency.

More importantly, through our clockwork processes and the lessons learnt over the years, we are able to not only repeat but also improve on our successes, to achieve high quality and safety standards for each project,” said CH Tong.

Into its third year, the annual MAXA Award is jointly conferred by the Economic Development Board (EDB), McKinsey & Company and the Singapore-MIT Alliance (SMA).



Keppel FELS is the first Singaporean enterprise to be honoured with the MAXA Award

## What the MAXA assessors say...

“What Keppel FELS has achieved is impressive across several dimensions. They have taken a manufacturing shop-floor mindset to a project-based industry, for products that are very significant both in size and complexity.”

### **Chinta Bhagat**

*Managing Partner (Singapore) McKinsey & Company*

“Keppel FELS’s significant innovations in manufacturing operations and engineering design are impressive. These, coupled with their increasing technical depth and expertise plus a highly motivated workforce, have enabled them to be a global leader to be reckoned with.”

### **Professor Yue Chee Yoon**

*Singapore-MIT Alliance, Programme Chair in Manufacturing Systems and Technology*

“We always used to think that Singapore is about electronics and pharmaceuticals. Then a company comes along which is traditional but has an international footprint second to none. We need to celebrate such companies based here that have an international footprint and which are world class.”

### **Professor Lord Kumar Bhattacharyya**

*Director and Founder, Warwick Manufacturing Group*

“25 years ago they were just a shipyard. The industry was very tough and a lot of companies were not doing well. But Keppel evolved, they changed their business model from just building to a customer’s requirement to providing innovative ideas that improve the customer’s design.”

### **Tan Teik Seng**

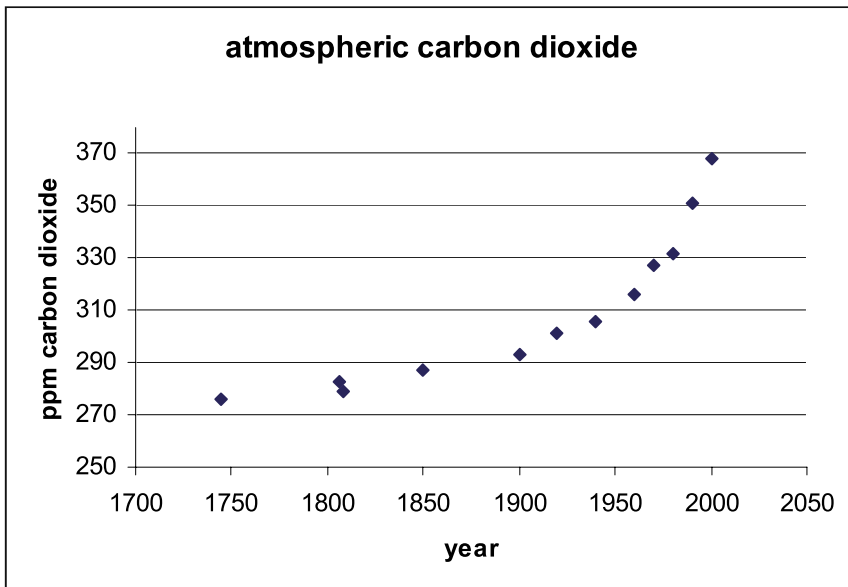
*Former Senior Executive Managing Director Advanced Micro Devices (AMD) Singapore*

# To do or not to do?

Keppel Chair Professor Andrew Palmer from the Department of Civil Engineering, National University of Singapore delivered the 6th Keppel Offshore & Marine Lecture on CARBON CAPTURE AND STORAGE.

**H**eld at the NUS on 17 September 2008, he presented to some 200 professionals and students a technical response to climate change. Expressing his own opinion, he posed a question if it is worthwhile or a misuse of resources. Here is an excerpt of his lecture.

“That we are doing something to the climate is agreed by nearly everyone. There is a natural greenhouse effect: the incoming and outgoing energy fluxes were in balance, and the surface temperature was 15°. A sudden doubling of atmospheric carbon creates at atmospheric blanket, and reduces the outgoing energy. The earth heats up, and when it reaches a steady state, taking account of various rather complicated feedbacks, the temperature has increased by 2.5°.



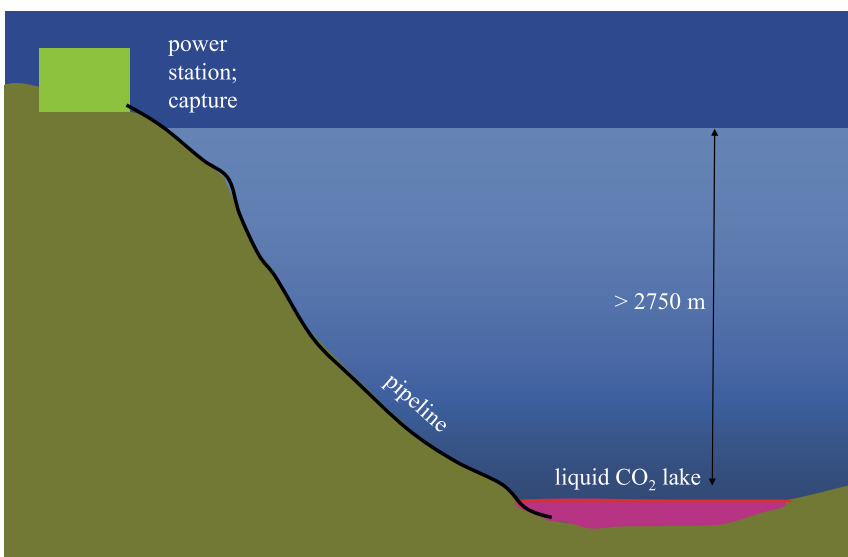
“**What responses are there?** Fuel efficiency, so we burn less fossil fuel and put less carbon dioxide into the atmosphere. Switching to alternative energy sources that dump little or no carbon dioxide: wind, solar, nuclear, biofuels. Mitigation: working to reduce the effects. Adaptation: learning to live with global warming. Carbon capture: capturing the CO<sub>2</sub> generated by burning fossil fuels, and putting it somewhere else, not into the atmosphere.

“I believe that we shall need all of them. Each of them presents challenges and difficulties. I shall focus on the last, but they will all be needed.

“**Where can we put the CO<sub>2</sub>?** This is the most popular option, putting it underground in a depleted oil field. This is the classic structure of an oil or gas field, though there are many configurations and some are vastly different. An impermeable cap, gas under it, oil and water under that.

“Many fields are from the Jurassic, 150 million years ago, so if the cap has held the gas into for 150 million years we can be confident that it would hold in CO<sub>2</sub>, as long as we don't do anything silly, like much increasing the pressure and blowing up the cap, or creating chemical changes that might dissolve the cap.

“Another option is ocean storage. At atmospheric pressure liquid CO<sub>2</sub> is lighter than seawater, and floats. However, liquid CO<sub>2</sub> is more compressible



than water, and so at the pressures that exist in the deep ocean, deeper than 2750 m, CO<sub>2</sub> is denser than water and sinks. So here is a possible scheme.

“We transport liquid CO<sub>2</sub> out to sea, and pump it down a vertical tube. It falls from the end of the tube to a hollow in the seabed, and there it forms a lake of liquid. The lake becomes covered with a layer of CO<sub>2</sub> hydrate, but that is if anything advantageous.

Alternatively, we have a power station onshore, and we collect the CO<sub>2</sub> and pump it down a pipeline to the depth we need.

“However, many people don’t like the ocean-floor lake option. They worry that in the long term the CO<sub>2</sub> might diffuse back into the ocean and acidify it, which would have harmful biological effects.

“So that suggests that we put the CO<sub>2</sub> into some sort of bag; David Keith proposed the term ‘sausage’. A good word, by the way: it has pleasant and friendly subliminal associations.

**“How to lay the sausages on the seabed?”**

I think of a scheme like this: a floating drum, a bit larger than a supertanker, the empty membrane rolled round it, towed along and the membrane unrolled onto the bottom.

“That is the easy bit. Much harder and more demanding are the political questions, as they almost always are... There will certainly be a lively debate. Some people have an interest in exaggerating the problem, and some have an interest in minimising it.

“A real problem is that CO<sub>2</sub> is different from most pollution problems. If I reduce pollution by oil (or asbestos or arsenic) in Birmingham, say, that has an immediate beneficial effect locally, irrespective of what anyone else does. If I reduce pollution by CO<sub>2</sub> in Birmingham, on the other hand, the beneficial effects are indeed there, but they are spread around



Andrew Palmer is a Fellow of the Royal Society, a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Civil Engineers, and a Chartered Engineer. He has divided his career equally between practice as a consulting engineer and university teaching. He is the author of three books and more than 180 papers on pipelines, offshore engineering, geotechnics and ice. He has an active consulting practice.

the whole world, and the immediate local impact is much smaller.

“**Will it happen?** I wish I could be optimistic. I think that at the moment there is little pressure for any real action, as opposed to posturing. Maybe that will change.

“Finally, there is a real issue about whether or not global warming is the best thing to spend the world community’s resources on. Here is some of the context you are all familiar with.

“Every minute, 18 children die of hunger and preventable disease. Think of this lecture room filled with children at 7 o’clock when we began, and now at 8 they are all dead. Not a hypothesis or an abstract example, but for real: those

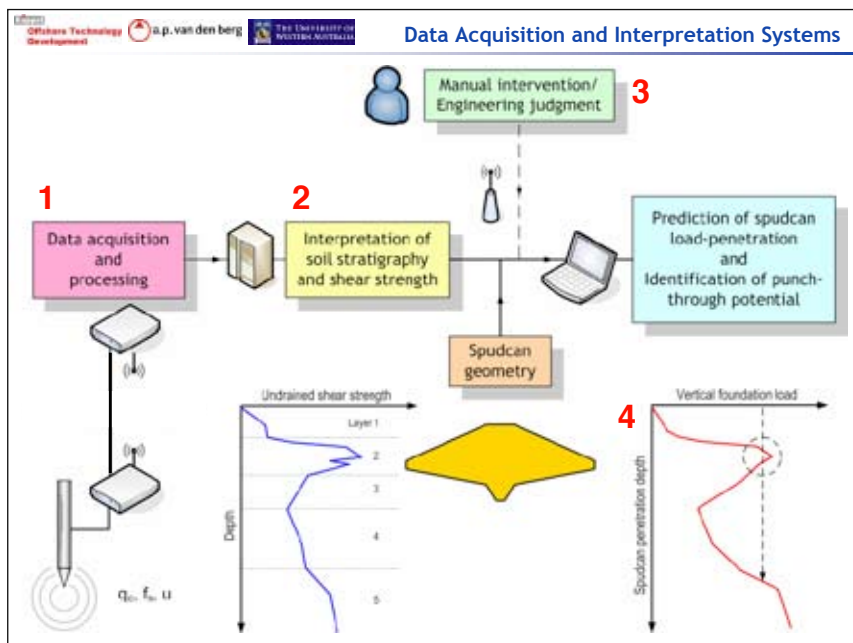
children out there were alive at 7, and not they have died.

“Ideally, of course, humanity would deal with that and with global warming too, but that won’t happen.

“We need to think about how to prioritise. I know that Bjorn Lomborg is a controversial figure, partly because he questions authority and received opinion, but I recommend to you his book. He argues that there are other targets, less glamorous but more effective.

So, in conclusion, carbon capture and storage is technically feasible, using existing technology. There are real questions of political will, public acceptance, and whether it is the highest priority.

# Devices for more reliable jackup operations



Wong Kok Seng (left), ED (Operations) of Keppel FELS, shared the highlights of Keppel's proprietary KFELS B Class jackup with conference participants

**R**eliability of geotechnical investigations and assessment of jackup leg penetration prediction are two critical factors in ensuring the safety of jackup rig installations.

With a special design and handling system, an in-situ soil testing device (CPT), uses the proven PCPT equipment. It is customised and integrated within jackup leg(s) to enable soil penetration testing up to 25 metre immediately below the spudcan, and to allow analyses of spudcan penetration predictions and punch-through hazard identifications to be performed on location.

The device is jointly developed by Keppel Offshore & Marine Technology Centre (KOMtech), AP van den Berg – one of the biggest manufacturers of soil testing device – and Centre for Offshore Foundation System (COFS) at the University of Western Australia – a leading research institution in offshore geotechnics.

The concept for this device was presented by Dr Matthew Quah, R&D Manager of Offshore Technology Development (OTD) and Programme Manager of KOMtech, wholly owned subsidiaries of Keppel Offshore & Marine at the 2nd Jackup Asia Conference.

Another paper, "Understanding Spudcan Extraction Problem and Mitigation Device" was presented by Dr Okky Ahmad Purwana, Geotechnical Engineer of OTD.

Spudcan extraction problems are often encountered particularly where deep leg penetrations or rig moves following an extended operation period in clay seabed occur. Apart from economic loss associated with the delay, this situation may also risk structural integrity of jackup rigs in particular when a prolonged extraction is attempted.

To address this problem, a new technique

and system is proposed which works on the principle of creating and sustaining uniform pore pressure build-up at the spudcan base during leg pullout. The technique was invented by OTD in partnership with National University of Singapore (NUS).

Held on 17 and 18 November 2008, the event brought industry experts and academia together to exchange ideas to push the envelope in using jackup rigs for oil and gas exploration.

Organised by AP Energy Business Publications, Jackup Asia Conference & Exhibition 2008 was supported by Keppel FELS, OTD, Premium Drilling and ENSCO.

*For more information on these two devices contact the respective gentlemen at [Matthew.QUAH@keppelfels.com](mailto:Matthew.QUAH@keppelfels.com) and [OkkyAhmad.Purwana@keppelfels.com](mailto:OkkyAhmad.Purwana@keppelfels.com) respectively.*

# New premises for KOMtech centre

The building is packed with state-of-the-art facilities and furnished with the latest research materials. Yet it is the bright cheery colours of the newly-refurbished Keppel Offshore & Marine Technology Centre (KOMtech) that seeks to inspire its current pool of more than 50 researchers from around the world.

Researchers from KOMtech began moving into their new home at 31 Shipyard Road since the end of October 2008. The new facilities include a laboratory, library, conference room and cafeteria.

Liu Shuyong, research engineer (drilling equipment) is pleased with the new working environment. He said, "Before

the new building is ready, my colleagues and I were located in different premises and we have to communicate through phone calls and emails most of the time. So it is much more convenient for us now to work together for research projects."

Currently occupying the premises are 52 researchers and 10 management and administrative staff. The researchers come from different countries ranging from New Zealand, China, Malaysia, Norway, Indonesia and India.

KOMtech was officially launched on 3 December 2007 and this new centre serves to bolster Keppel Offshore and Marine's competitive edge by providing leading-edge technology.



The new facilities of KOMtech Centre include a laboratory where researchers conduct experiments for their research projects

# Living quarters to enhance lives

Just a 5-minute ride from the shipyard, two two-storey buildings will be the new home for 800 Subic rank and file and project employees including subcontractors who currently reside outside Olongapo City, Subic and San Antonio, Zambales at a subsidised rate.

Located inside the 13.434 hectare Unity Hall gated compound, the 1,600 sqm

floor area provides ample space and privacy for its tenants with one floor having an all-female wing able to accommodate 100 boarders.

The inauguration of the new dormitories on 12 November 2008 was witnessed by the management and the board of directors of Subic Shipyard and Engineering, Inc. (Subic Shipyard)

"This home away from home is dedicated to the hardworking men and women of Subic Shipyard. This project has been made possible by their unwavering support and dedication through out these years," said Doris Magsaysay-Ho, Vice-Chairman of Subic Shipyard during the blessing ceremony.

An outdoor basketball court, badminton courts or covered ping-pong and dart activity areas are just some of the amenities that tenants can enjoy. They may also catch the latest news in the TV room or dine at the cafeteria at the Unity Hall.

Despite being just a stones throw from work, the tenants will surely feel at home in the new Subic dormitories.

Members of the board cutting the ribbon for the new dormitory



# SHARPening on safety



Safety starts with me as exemplified by the winners of the Annual WSH awards

**K**eppel picked up 15 awards at the Annual Workplace Safety and Health (WSH) Awards on 2 October 2008 held at the Shangri-La Hotel where Singapore's Ministry of Manpower lauded Keppel Shipyard, Keppel FELS and Keppel Singmarine on their safety achievements for 2008.

The Awards celebrates the best in workplace safety and health. It recognises deserving winners on a national level for their commitment and exemplary standards in WSH.

Guest-of-Honour, Acting Minister for Manpower Gan Kim Yong said, "The winning companies have pushed the envelope on good WSH practices. Apart from corporate systems and processes, individuals also play an important role in raising WSH standards."

"Mr Shukumar from Keppel Singmarine, for example, monitors his workers closely and corrects their safety violations or unsafe behaviour spotted. He takes pain to counsel each worker on proper work practices, so as to inculcate good safety habits in his workers."

It was due to Mr Shukumar's efforts that his team comprising 20 workers has been enjoying an excellent safety record over the past three years.

Shukumar Dey Nishi Kanta Dey, a Supervisor at Keppel Singmarine said of the award, "I am very happy to win this

award and I would like to thank Keppel Singmarine and the WSH Council for promoting safety in the shipyard. I am delighted that I can do my part to make the yard a safe place to work. Work place safety should never be compromised and we should never take short cuts in our work."

Of his win, Supervisor Mohammad Babul Arman Khan of Keppel Shipyard said, "Winning this award is something that I am extremely proud of. Safety can only be effective when everyone plays his part and I would like to acknowledge the effort made by all my colleagues in keeping the yard safe. They have made my job more meaningful."

The Awards celebrate the best in workplace safety and health which recognises deserving winners at the national level for their commitment and exemplary standards.

As part of Keppel's safety commitment of ensuring everyone goes home safe, regular walk-about, HSE watch groups, Environmental Awareness programmes are introduced and organised. Keppel prides itself on its high safety standards, which are recognised and appreciated by its clients.

The *Safety Starts with Me* and *Safety Excellence 2010* initiatives started earlier this year aims to cultivate a sense of personal and collective responsibility for safety among supervisors and workers.

## Innovation Award

Keppel Singmarine team – Project Safe Standards.

## Safety and health award recognition for projects

### Keppel FELS

B274 Maersk CJ 50  
B275 Maersk CJ 50  
B282 Diamond Offshore  
B283 GDI Al Zubarah  
B284 Deep Driller 6  
B285 Wilboss

### Keppel Shipyard

FDPSO Azurite  
FPSO Espirito Santo  
FPSO Mondo  
FPSO Saxi Batuque  
FPU P53

## WSH performance Awards

Keppel Singmarine - Silver

## WSH awards for supervisors



**Mohammad Babul Arman Khan**  
Keppel Shipyard (Gul)

**Shukumar Dey Nishi Kanta Dey**  
Keppel Singmarine

# Safety rewards at Batangas

Keppel Batangas is ramping up its safety efforts. Together with Keppel's long-time customer ENSCO, the yard launched its safety incentive programme aimed at encouraging all workers to take responsibility of each others' safety by rewarding their efforts.

Recognition awards are given to individuals who are selected quarterly based on the safety criteria set by the Safety Promotion Committee.

Kok Boon Heng, President of Keppel Batangas said, "Previously, our approach to safety management was more punitive. Now, we adopt a more rewarding stance to inculcate safety consciousness in our people. We consider our subcontractors as our people."



Keppel Batangas and ENSCO jointly launch the safety incentive programme

First mooted by Jesus Emmanuel Dayo, ENSCO's Construction Manager for Capital Projects, the idea to encourage people to take ownership of their safety has now been formalised with the launch which took place on 30 September.

Rocky Alcala, a leadman for one of the yard's subcontractors, shared, "The programme is very encouraging for our workers. It will positively impact their morale and motivation."

# Wearing their hearts on their wrists

Playing their part as safety advocates, Nelson Yeo, ED of Keppel Shipyard and Michael Chia, ED of Keppel FELS, started the trend of wearing the *Safety Starts With Me* wristbands as part of their daily uniform. The safety

wristbands, in colours of yellow, orange or green, were first introduced as door gifts for the launch of Keppel's *Safety Starts With Me* initiative and Keppel Shipyard's *Safety Excellence 2010* programme held in May 2008.

Nelson wears his everyday and only takes them off to give away as part of his creative tactic to spread the safety message. Michael Chia too has been sporting them since this year's Safety Convention as his personal commitment to promote a safety culture in Keppel.

Keppel Shipyard's Senior General Manager, Abu Bakar, another safety wristband fashionista shared, "I realised it is an ingenious way, as safety promoters, of not only reminding us of our safety obligation but it is also a physical demonstration of our commitment towards safety."

The fashion statement has caught on and there are now requests including from subcontractors to give to their employees. This is one (wrist)band everyone will enjoy.



Safety fashion spread to Keppelites and trends come full circle as they proudly display their safety wristbands



# We are family

**C**lose your eyes and think of a beach. What are the colours that make up that beach?

For one sunny Sunday, Sentosa's Tanjong Beach was painted orange, pink and blue as 20,000 staff and family members of Keppel O&M speckled the beach while using their umbrella door gift at this year's Family Day.

Apart from the numerous activities, including beach soccer, volley ball,

lines of game stalls, a dunking machine, a balloon village for kids and a tug-of-war competition, Keppelites and their family were also treated to entertaining performances, some of which were put up by fellow colleagues. And of course, the always popular and attractive lucky draw prizes never fail to excite the crowd.

Amidst the high spirits, CB Choo, Chairman & CEO of Keppel O&M, took the opportunity to share his thoughts on

the current economic situation and the outlook to come with Keppelites.

He said, "What started as a financial recession caused by the US sub-prime meltdown has evolved into a global crisis. Against the worsening of the global economic backdrop, Singapore is now in a recession. Outlook for next year does not look bright."

However, he continued to assure that despite the gloom economic situation, Keppel O&M's strong order book of





Clockwise from left:  
Painting the beach orange, pink and blue.  
Finale performance for Keppelites,  
by Keppelites. The Keppel wave.  
Keppelites giving belly dancing a go

\$13 billion will keep everyone going until 2012.

Setting the direction for the year ahead, he said, "Our top priority is to strengthen our project execution and to continue delivering high-quality products and services to our valued customers on time, within budget and without incident.

"We have never stopped investing in people development, whether in good times or bad. We will continue to provide career opportunity for our people who

work hard and work smart. Those who do well will be rewarded fairly."

Into its sixth year, the annual event held on 2 November 2008 was graced by Guest-of-Honour, Mr Matthias Yao Chih who is also the Mayor of Singapore's Southeast District.

Noting the strong bond between Keppelites, Mr Yao said, "You belong to a good company, with a good management team and good Unions. Thank you for sharing your family day with me."

# Ten years of growth

**I**t was a night filled with song and dance performances put up by Keppelites for their fellow colleagues as Keppel FELS Engineering Shenzhen Company commemorated 10 years of growth on 7 September 2008.

Over the years, the company has grown from strength to strength, from a mere 20 headcount to its current 133-strong staff.

A wholly-registered company of Keppel FELS, the engineering office supports the main office in Singapore by handling design analysis and detailed engineering for drilling rigs. More than 30% of Keppel FELS' engineering work is undertaken in the China office.



Keppelites enjoying the Swan Lake performance put up by eight of their male colleagues

# At paint with teamwork

**I**t was a messy state of affairs when teams from Keppel Shipyard and BW Offshore started firing at each other. Bullets rained down rapidly on each side as the teams

fought fiercely and determinedly at a recent teambuilding event.

It is in fact an incredibly fun and a good way to build up camaraderie between the project teams of Keppel Shipyard and BW Offshore before they embarked on the conversion of the FPSO, *BW Pioneer*. The paintball competition was an innovative idea to promote teamwork and communication.

Held at Orchid country club, the team building exercise also included workshops which emphasised coordination and teamwork, communication and motivation, understanding the different cultures and creating a safe project culture.

The programme was part of regular team building sessions that Keppel Shipyard holds with its clients before the start of a project.



Keppel Shipyard and BW Offshore building teamwork and camaraderie over an exciting game of paintball

# Let the games begin!

One of the most anticipated events in Keppel Batangas kicked off with a big bang.

The start of the 2008 annual sports festival saw Keppel Batangas come alive and bursting with colours as participants in their different jerseys waved their banners for the opening ceremony amidst rapturous cheers from the huge crowd that had assembled along the driveway.

The afternoon of 24 October saw 13 teams representing the different departments, from Administration to Structural Welders march to the basketball court where the ceremony was held.

“We are gathered here to share the spirit of sportsmanship. May this sports fest promote goodwill and camaraderie to each one of us. On this note, let the games begin!” declared Kok Boon Heng, President of Keppel Batangas Shipyard.

The teams eagerly assemble during the sports fest’s opening ceremony

Teams pit their wit and stamina against each other in various games that include basketball, volleyball, darts, badminton, chess and table tennis.

“It is a welcome respite from the fast production pace of the yard and an opportune time for co-employees to enjoy each other’s company and foster new friendship in the organisation,” shared Teodorico B. Brucal, Union President.

Aside from workers’ brawns, beauty also ruled at the event. A muse from the different teams wooed the crowd with their graceful catwalk as each contestant charmingly sashayed before the assembly.

The crowd favourite, a Quality Control officer from the Shipwright Department had the crowd erupting in loud approval when she was named Miss Sports Fest 2008.

The intramurals would run until November with games being held after office hours. With the strong competitive spirit, employees at Keppel Batangas can be seen training and gearing up for the beginning of another round of exciting games.

Ready to pounce as players show their competitive streak in basketball



# Spooking the town

**I**t was time again for the Keppel FELS' Sundowners event, a platform to facilitate the sharing of ideas and promote closer fellowship outside the work environment. Held in different venues regularly, Keppel FELS' Sundowners are a hit with customers and associates.

On 31 October, Keppelites and business partners exchanged their work attire for costumes of pirates,



# at sun down

ghouls, witches and all things frightening and fantastical in the spirit of Halloween.

These creatures of the night took to the high seas on board the vessel *Imperial Cheng Ho*, a replica of the famous Ming Dynasty imperial vessel, and turned it into a floating spook town.

*OffshoreMarine* shares some hair-raising moments.





Chong Lit Cheong, CEO of IE Singapore (second from left), Minister of State, Mr Lee (fourth from left), and CB Choo sixth from left) flanked by ministers and ambassadors of the various Latin American countries getting together at a cocktail reception hosted by Keppel

## Promoting Latin America in Asia

The Latin American region is experiencing a resurgent oil and gas sector. Coupled with Asia's growing energy needs, these factors translate into opportunities for companies to provide services in jackup and offshore rigs, as well as conversion of tankers into floating, production, storage and offloading vessels.

Minister for Trade and Industry, Lim Hng Kiang, mentioned this at the Latin Asia Business Forum 2008 to ministers and business leaders from the two continents.

Held annually, Keppel has been a strong supporter of the Forum as the gold sponsor, hosting a cocktail reception for the business and ministerial delegates for the past three years.

The cocktail reception was graced by Minister of State for Trade and Industry, Mr Lee Yi Shyan, and hosted by CB Choo, Senior ED of Keppel Corporation and Singapore's Non-Resident Ambassador to Brazil.

Held on 22 September 2008, the cocktail reception provided an excellent platform for networking where some 300 guests were entertained by traditional Mexican musicians and ballroom dancers.

The DanzonEra, which consists of 12 musicians playing latin music and 3 dance couples was presented by the Mexican Embassy and Keppel O&M. The group wowed delegates from all over the world with their scintillating dance moves and samba music.

Keppel O&M has been active in bringing the world's arts and culture to Singapore. For two years running, Keppel O&M sponsored the World of Music,

Arts and Dance (WOMAD) Singapore Festival.

In 2007, Keppel O&M sponsored the renowned Brazilian Samba Group, Clube Do Balanço; Brazil's reigning Queen of Bossa Nova, Bebel Gilberto; and the best of Brazilian design and architecture jointly with Brazil's Ministry of External Relations. The company also presented the Tamaulipas Folk Dance as part of the Festival Mexicano.

Dancers from Mexico showing off their fancy footsteps



CB Choo (centre) explaining the workings of the P-52 semisubmersible to Ambassador of Brazil, H.E. Paulo Alberto da Silveira Soares (right)



## Spearheading Marine Technology Development



Tan Cheng Hui is appointed as the new head for Marine Technology Development

Keppel O&M's ship design and development arm, Marine Technology Development (MTD), has appointed its new head with effect from 15 September 2008.

Tan Cheng Hui, 61, assumes the position of senior general manager of MTD. He continues to hold his concurrent designation as the general manager (Engineering) of Keppel Singmarine (KSM).

His role in MTD will be focused on interfacing with clients as well as spearheading research and development initiatives in collaboration with Keppel Offshore & Marine Technology Centre.

He will be aided by Au-Yeong Kin Ho who has been appointed GM, MTD. Au-Yeong will oversee daily operations of MTD in addition to his current duties as KSM, AGM (Engineering).

## Keppel FELS Brasil Director elected president of SOBENA

Alceu Mariano de Melo Souza, the director of Institutional Relations of Keppel FELS Brasil, a wholly owned subsidiary of Keppel O&M, was appointed the president of SOBENA, the Brazilian Society of Naval Engineers. The new directory comprises engineers from Transpetro as well as Academics and Navy representatives of Brazil.

According to Alceu, this is the right moment for a new approach towards the shipyards. He said, "We will work to re-approach the shipyards, and also to establish a technological agenda that seeks to enhance the country's naval industry and offshore development."

Alceu Mariano has been a director of Keppel FELS Brasil since 2006. He was previously the sub-secretary of the Marine Industry of the Rio de Janeiro state and occupied several key positions in the Brazilian naval industry.

Alceu (Centre) with the senior management of Keppel O&M and client Petrobras



# Partners through time and tide

“Our subcontractors are an extension of our workforce. We have partnered you in almost every aspect of our business, from safety to the expansion of our facilities. Let us continue this partnership to tide through this storm.”

*CH Tong, MD of Keppel FELS*

**H**eld annually, Keppel FELS’ ‘Subcontractors’ Night’ serves as a dialogue session for management and all subcontractors to share ideas and feedback for improvement of working processes and relationships.

At this year’s event, on 30 October 2008, one question seemed to preoccupy everyone’s minds. With the current economic downturn and tightening of finances within companies, will the subcontracting workforce in Keppel FELS be affected?

Addressing everyone’s concerns, CH Tong, MD of Keppel FELS assured, “Keppel FELS has taken 40 years to be where we are today. We have Partners through time and tide experienced the up and down cycles of the industry and went through difficult times to emerge stronger.”

Yet, while work is assured, CH Tong warned that the going will get tougher, adding, “While we continue to seek out new business opportunities, we also ask

that our subcontractors focus on executing well the projects at hand, by working more efficiently and minimising resource wastage.”

In addition to the safety and long-term partnership awards given out, this event also saw formalisation of the Subcontractors Executive Committee. Comprising 20 members from different companies, the Committee serves as a formal channel of communication between Keppel FELS management and the hundreds of subcontracting companies.

Chairman of the Committee, Low Eng Cheong of Crest, also shared that the setup aimed to foster and enhance both parties’ working relationship as well as to champion and implement new initiatives for the subcontractor community.

An initiative which the Committee had come up with is the development of a subcontractor personnel handbook which consolidates Keppel FELS’ rules and regulations, safety, important help lines and other relevant information.



The Subcon night provides a platform for Keppel FELS’ management and subcontractors to engage each other in a bid to improve productivity and mutual understanding



# Running start to Quadthlon

The first ever Quadthlon held in Singapore was organised by SAFRA and supported by Keppel O&M. The event attracted over 250 foreign and local participants.

Held on 12 October 2008 at Changi beach park, the Singapore Quadthlon covered 38.5km, where participants had to swim in the open sea for 500m, in-line skate for 12km, cycle for 20km and run for 6km.

In the corporate relay race, the Keppel Shipyard team of Hull Engineer Teo Wei Kiat and Finance Officer Ler Boon Hwei, who at 26 and 28 years old respectively, came in a respectable fourth. Wei Kiat had even taken up in-line skating just for this race.

Wei Kiat said, "It was a challenging race and definitely raises our interest in races with multi-disciplines such as this quadthlon. We aim to do better next year!"

Charles Foo, MD of Keppel O&M (Special Projects) said, "Sponsoring the quadthlon is



an ideal way to encourage a good work life balance. Our Keppelites have been keen to take on the challenge of this first-ever quadthlon."

The other Keppel pairings of Teng Hong Kit and Loh Yuanhe came in 5th while Alvin Thng and Roozaimy Bin Omar came in 7th position.

Participating in Singapore's inaugural Quadthlon are the relay teams from Keppel supported by Abu Bakar (2nd from left, standing), Senior GM of Keppel Shipyard (Tuas), Charles Foo (3rd from left, standing) and Lim Ai Kok, Chairman of Sports Committee, Keppel Recreation Club

# Give blood, save lives



There is no greater gift than the gift of life. Keppel does its part to encourage staff to donate blood through the Keppel Scholars Alumni Association and Keppel Volunteers amidst this season of giving, in the month of December.

In collaboration with the Singapore Red Cross, bloodmobiles will be set up at Keppel FELS, Keppel Bay Tower and Keppel Shipyard (Tuas) on 2, 5 and 9 December 2008 respectively.

Blood donations are highly sought after as

Singapore needs an average of 350 units of blood daily. This translates into more than 100,000 units needed per year to help treat different illnesses and injuries.

All blood collected is distributed to hospitals for several purposes. Aside from daily surgeries and accident victims, blood is also needed during bone marrow transplants for leukaemia patients, amongst other uses.

Sign up today for the Keppel Group Blood Donation Drive at <http://erp.donorweb.org/events.php?grp=3>.

# Sharing is rewarding



CH Tong received the corporate award from S. R. Nathan, President of the Republic of Singapore, at the Istana

**G**ood works seldom go unnoticed.

With its unstinting support and generous contribution towards the *Community Chest* in 2008, Keppel O&M was honored with Community Chest's corporate award (platinum)

in recognition of its donation of \$400,000 on 9 October 2008.

CH Tong, MD & COO, Keppel O&M, who received the award from President S. R. Nathan on the Company's behalf said, "Keppel Offshore & Marine has always been a regular supporter of community work. We are honored to be given this award and will continue to increase our efforts in community work."

Keppel O&M's subsidiaries have also been actively contributing to corporate social responsibility efforts. Keppel FELS and Keppel Singmarine won the SHARE Platinum Award whereas Keppel Shipyard and Keppel Logistics were awarded the SHARE Gold Award.

The SHARE (Social Help and Assistance Raised by Employees) Award aims to recognise the regular monthly contribution of individuals and organisations to the SHARE Monthly Contribution Programmes. The awards are presented to organisations based on their participation rate in these activities.



Keppelite volunteers clean the shorelines of Keppel Batangas Shipyard

## Clearing the

**A**rmed with garbage bags, a team of volunteers from Keppel Batangas joined students, community folks, business groups, and members of different government and non-government organizations gathered along Batangas Bay to lend Mother Nature a hand in keeping the coastal areas clean and green.

Dubbed the International Coastal Cleanup Day, this annual global event aims to promote environmental awareness on cleanliness along the shorelines. This year, the Municipal Mayor of Bauan, Batangas enjoined its constituents and the business sector to celebrate this event

# Caring through art and congee



Children from confinement centers showing off their talent, performing a special dance for a fund raising dinner

In the Child Justice League (CJL), Keppel is supporting an organization of volunteer lawyers who are giving free legal services to exploited and marginalized children, as well as those who are in conflict with the law. On 13 September 2008, a benefit dinner called “Lugaw for a Cause” saw participants having lugaw or congee while children from shelters and confinement centers made an impression on the audience with songs and presentations depicting the harsh life on the streets.

“The very slow adjudication or resolution of the children’s cases in court further aggravates the misery that they experienced in the outside world,” said Atty. June Ambrosio, vice-chairperson of CJL, as she stressed the need to protect children’s rights.

KPMI and Subic Shipyard & Engineering Inc. (Subic Shipyard), also partnered with other corporate sponsors and art patrons in an educational fundraiser activity promoting Philippines’ first National Artist, Fernando Amorsolo.

Launched on 19 September 2008, the exhibition titled “His Art, Our Heart – The Amorsolo Retrospective” will help children under the care of C.R.I.B.S. Foundation, Inc. (CRIBS).

The exhibition will be featured in seven museums across Manila showing the different insights and inspirations with his trademark use of lively hues and powerful colors.

Amorsolo’s beautiful artworks portray Filipino customs and traditions in vibrant colors that have endeared him to art enthusiasts both in the Philippines and overseas. Some of the paintings featured in the exhibits will be viewed by the public for the first time.

## coast

together with other volunteers worldwide in a simultaneous cleanup from 6 am to 10 am in all barangays along the coastal area.

The early morning sun that greeted the volunteers on 20 September 2008 also met lines of litter that had accumulated on the beach. Summoning the *Can Do!* Spirit, the Keppel Batangas team which was led by the HSE department trooped to the shorelines along the yard to pick up garbage and other debris that have washed ashore.

**W**hat do art and congee have in common?

For Keppel Philippines Marine, Inc. (KPMI), they are the conduits to help improve the lives of underprivileged children.

Together with other corporate and individual donors, KPMI, has supported two fund raising events that aim to make a big difference in the lives of these children. Through the evocative expressions of art and the simple culinary delight of congee, these events will provide aid to children who have experienced neglect, abandonment and abuse at an age when they are supposed to be enjoying their childhood.

# Around our yards

OffshoreMarine tracks works at various Keppel yards

**MURORAN MARU**



## Singapore

### Keppel Shipyard Tuas

Name : **MURORAN MARU**  
Owner : Nippon Oil Tanker  
Country : Japan  
Type : Crude Oil / Product Tanker  
DWT : 114,106  
GRT : 67,524  
Date : 10 – 31 October 2008  
Scope : External hull blasting and painting. Propeller polishing. Main engine overhauling. Forward and aft main engine cooler overhauling. Overhauling of pumps and valves in various locations. Fabricate and renew pipes in various locations.

### Keppel Shipyard Benoi

Name : **BANGKOK EXPRESS**  
Owner : Norrddeutsche Reederei  
Country : Germany  
Type : Gearless Container Vessel  
DWT : 85,832  
GRT : 75,590  
Date : 1 – 12 November 2008

**BANGKOK EXPRESS**



Scope : Renewal of damaged bottom plates & internals. Side shell renewal in way of No 3 starboard fuel oil tank. Repair of cell guides. Renewal of heating coils. Propeller polishing. External hull blasting and painting. Overhauling of valves in various locations.

## The Philippines

### Keppel Batangas Shipyard

Name : **GLARUS**  
Owner : Massoel Meridian Ltd.  
Country : Switzerland  
Type : Bulk Carrier  
DWT : 46,513  
GRT : 27,011  
Date : 4 October 2008 (WIP)  
Scope : Drydocking and general services. Cargo hold and hull blasting and painting. Mechanical works. Steelworks.

Name : **LUMINOUS HALO**  
Owner : First Marine Service Co. Ltd.

Country : Japan  
Type : Bulk Carrier  
DWT : 56,018  
GRT : 18,500  
Date : 3 – 13 November 2008  
Scope : Drydocking and general services. Hull cleaning, blasting and painting. Piping works. Steelworks.

Name : **SANTA ISABELLA**  
Owner : Misuga Kaiun (HK) Ltd.  
Country : Japan  
Type : Bulk Carrier  
DWT : –  
GRT : 30,822  
Date : 10 – 22 November 2008  
Scope : Drydocking and general services. Grounding damage. Steelworks. Hull cleaning, blasting and painting. Sea chest cleaning, valves overhauling, anodes renewal. Tailshaft, propeller and rudder works. Piping renewal. Anchor chain works. Main engine machineries and other electrical works.

SANTA ISABELLA



OUR LADY OF MOUNT CARMEL



**Keppel Cebu Shipyard**

Name : **PROVIDENCE**  
Owner : Glory Shipmanagement Ltd  
Country : Singapore  
Type : Tanker  
DWT : –  
GRT : 9,736  
Date : 18 – 24 November 2008  
Scope : Carried out temporary repairs on damaged portion of tanks brought about from explosion while vessel was on their loading voyage in Indonesia.

Name : **OUR LADY OF MOUNT CARMEL**  
Owner : Aboitiz Jebsen  
Country : The Philippines  
Type : Cargo/Passenger  
DWT : –  
GRT : 1,720  
Date : 14 November 2008 (WIP)  
Scope : Anchor and anchor chains work, hull cleaning and surface preparation, steel renewal various areas such bow thruster internals, steering wheel internals, side shell plate above wagon deck area includes repair of aft ramp. Servicing of sea chest and sea valves propeller/ tailshaft/rudder and stern tube P/S works, various ER and deck machinery works main switchboard cleaning, various cooling pipe works.

Name : **SULPICIO CONTAINER II**  
Owner : Sulpicio Lines, Inc.  
Country : The Philippines  
Type : Cargo Vessel  
DWT : –  
GRT : 1,248  
Date : 11 October – 12 November 2008  
Scope : Hull blasting and painting, steel renewals, pipe repair/ renewal, seawalves servicing, anchor and chain works, propeller/rudder/tailshaft works and other routine drydocking works.

**Subic Shipyard & Engineering**

Name : **MONA RIVER**  
Owner : Bernhard Schulte Shipmanagement (India) Private Limited  
Country : India  
Type : Bulk Carrier  
DWT : 171,012  
GRT : 85,888  
Date : 9 – 18 November 2008  
Scope : Drydocking; Hull preservation; Rudder trunk cleaning; Elevator & engine room overhaul; Draft gauge calibration; Installation of Systems Voyage Data Recorder (SVDR); External hull anodes installation; Double bottom tank anodes installation; Main engine fuel pump & main engine

turbocharger overhauling; Central & main engine air coolers overhauling; Sea suction & overboard valves overhauling; Auxiliary boiler mounting & safety valves overhauling; Stern tube renewal; Tailshaft withdrawal; Sea trial; Fire & GS pump suction pipe renewal; Bunkering pipes to renew; sewage modification & boiler refractory.

**The Netherlands**

**Keppel Verolme**

Name : **SEA JACK**  
Owner : A2SEA A/S  
Country : Denmark  
Type : Jackup Barge  
DWT : 4,574  
GRT : 5,579  
Date : 8 November 2008 (WIP)  
Scope : Drydocking and repairs.

Name : **MARE SALERNUM**  
Owner : Fratelli D'Amico Armatori SpA  
Country : Italy  
Type : Crude Oil Tanker  
DWT : 110,729  
GRT : 59,574  
Date : 17 – 27 October 2008  
Scope : Drydocking and repairs.

# Keppel Group | Newsbytes

**Keppel Corporation** remained firmly on track in delivering earnings growth by achieving a record attributable profit of \$834 million in the first nine months of 2008, which was 10% higher than that of 2007.

EPS were 52.4 cents and annualised ROE remained above 20% at 21.5%. EVA of \$614 million was \$27 million higher.

Group revenue in the third quarter of \$3,216 million was 24% above that of the corresponding quarter in 2007. Higher revenues were reported by all divisions except for Property Division which was affected by the softer market condition.

Group attributable profit of \$273 million was 10% above the same quarter in the previous year. Higher profits were reported by Offshore & Marine and Infrastructure Divisions. However, profits

from Property Division and Singapore Petroleum Company (SPC) were lower.

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**Singapore Petroleum Company (SPC)** has through its wholly-owned subsidiary, SPC E&P Upstream Pte Ltd entered into a Petroleum Production Sharing Contract (PSC) with Badan Pelaksana Kegiatan Usaha Hulu Minyak Dan Gas Bumi (BPMIGAS), an Indonesian state-owned legal entity, to explore the Mahakam Hilir Block (Block), subject to final government approvals.

SPC will be the Operator of the Block and is committed to conduct seismic survey and exploration drilling under the PSC. The Block, covering approximately 344.14 square kilometres, is located onshore Kutai Basin in the East Kalimantan Province, which is situated approximately one kilometre south of Samarinda town.

The Kutai Basin is one of the largest and most important oil and gas producing basins in Indonesia.

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**Keppel Bay Sailing Academy (KBSA)**, a premier training facility for recreational and professional sailing has been launched at Marina at Keppel Bay.

The Academy is the first in Singapore to provide courses accredited by the Royal Yachting Association (RYA). Internationally recognised, the UK-based RYA is the leading institution for top grade courses in sailing.

Set up with the mission of raising standards of professional sailing locally and regionally, KBSA is one of the largest RYA training centres in Asia.



Venture and Endeavour – brand new Beneteau yachts owned by KBSA

# Global Reach

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# Keppel secures four new contracts



Upon completion, *MSV Regalia* will conduct a project in the Norwegian Continental Shelf

**K**eppel Offshore & Marine (Keppel O&M) has secured four new contracts through its subsidiaries.

The first contract is for the conversion of a FSO by Keppel Shipyard for M3nergy JDA Sdn Bhd.

The scope of work includes the repair, life extension and conversion of a Panamax Tanker built in 1989, into a FSO which involves the fabrication and installation of an external turret mooring system, cargo offloading station, metering skid and helideck as well as the upgrading of accommodation, fire fighting system and communication systems.

When completed in third Quarter of 2009, the FSO will be able to store 546,000 barrels of oil with a maximum stabilised condensate production of 20,000 barrels per day.

The second contract by Keppel Shipyard is for the construction of an internal turret for SBM Offshore Inc, which will

be supplied to their end client BP Norge AS, for its Skarv FPSO unit.

When completed, the internal turret will be the largest in the world in terms of its rated mooring loads.

Nelson Yeo, ED of Keppel Shipyard said, "These new contracts demonstrate the confidence our customers have in us. We continue to execute our projects successfully and to the owner's satisfaction."

The third contract is by Keppel Verolme BV (Keppel Verolme) for the refurbishment and outfitting works on a semi-submersible multi-service vessel for Prosafe Rigs Pte Limited, a wholly owned subsidiary of Prosafe SE.

Scheduled to arrive in the fourth quarter of 2008, the vessel, *MSV Regalia*, will undergo a refurbishment programme. She will also have her main engines renewed, her thrusters and dynamic positioning system refurbished, and her hull blasted and painted.

Harold Linssen, MD of Keppel Verolme, said, "We are delighted Prosafe has chosen us for this project and we look forward to being their provider of choice in the region."

The vessel is scheduled to be completed in the second quarter of 2009.

The fourth contract, for the fabrication, installation and integration of topside process modules for the FPSO *P-57*, has been secured by Keppel FELS Brasil from SBM Offshore.

The workscope includes fabrication and erection of Topsides Modules, piping, electrical equipment and instruments. The modules are expected to be delivered in end 2009 with the commissioning and integration in the third quarter of 2010.

The upgrading and conversion of the FPSO *P-57* is currently being undertaken by Keppel Shipyard for SBM Offshore and is expected to leave Keppel Shipyard in the fourth quarter of 2009 for Brazil.