

Offshore Keppel Marine

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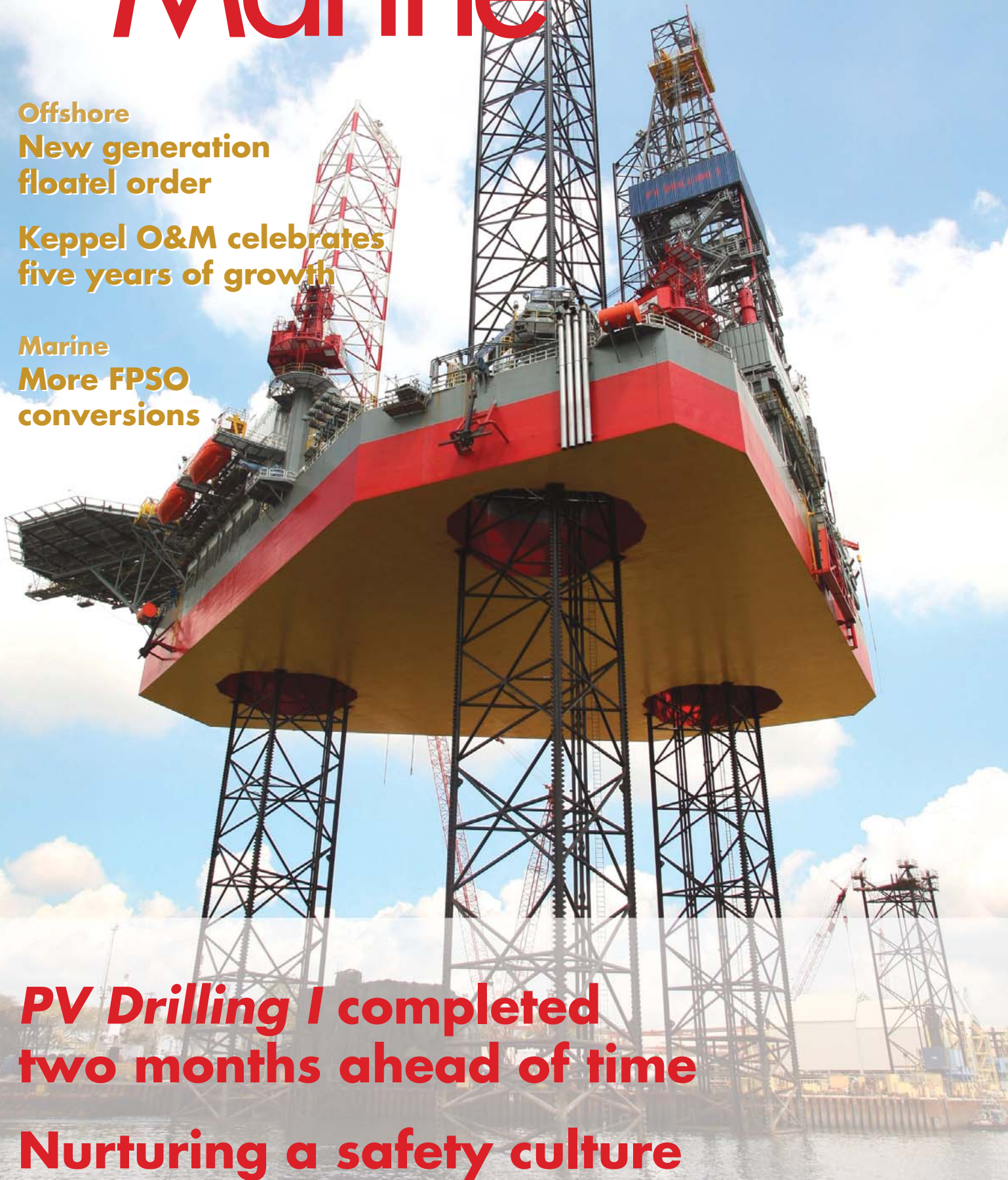
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Offshore
New generation
floatel order

Keppel O&M celebrates
five years of growth

Marine
More FPSO
conversions

***PV Drilling I* completed**
two months ahead of time
Nurturing a safety culture





On time every time for ENSCO

Page 12



Keppel at the energy capital of the world

Page 20



Sea Asia launches in Singapore

Page 24

FEATURES

New generation floatel order	3
Strengthening leadership position in FPSO conversions	4
<i>PV Drilling I</i> completed a record two months early	6
Excellence in Keppel Nantong	15
May Day Awards	27
Core values debut in Subic Shipyard	31
Brownsville lauds Keppel AmFELS	32
Nakilat and Keppel team up to develop world-class shipyard	40

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New generation floatel order



The *DSS20NS DP3* design floatel will be a safer and environment-friendlier unit. Keppel FELS completed a similar unit, *Safe Concordia*, in 2005

Keppel FELS has secured a contract from Floatel International Ltd (Floatel) to construct a 440-men accommodation semisubmersible (semi) for deployment in the North Sea.

The new generation unit will be built to the *DSS20NS DP3* design, co-developed by Keppel's technology unit, Deepwater Technology Group, and Marine Structure Consultants.

Accommodation semis, also known as floatels, provide accommodation for the additional workforce required for offshore construction, maintenance services or platform decommission work. They also provide construction support with their large deck area and crane support for the handling of goods and materials.

Peter Jacobsson, CEO of Floatel, said, "The existing fleet of floatels has an

average age of 25 years. This will not be able to satisfy the growing demand for safe and reliable offshore accommodation services, both in terms of number of units, as well as their quality."

Increased investments in new deepwater and harsh environment developments will also require new, high specification DP3 floatels.

Peter added, "The new floatel will be the industry's first for the North Sea in more than 20 years. As such, we recognise the importance of working with a proven shipyard capable of delivering quality projects.

"We are convinced that Keppel FELS, with its track record of on-time and on-budget delivery of quality products, is the right shipyard to build a North Sea compliant floatel."

Choo Chiau Beng (CB Choo) said, "There is a strong demand for accommodation floaters worldwide. We have developed the *DSS20NS DP3* accommodation semi design in anticipation of this need."

The innovative *DSS20NS DP3* design is a combination of the tried and tested *DSSTM 20* semi drilling rig design and the *SSAUTM 3600* accommodation semi. Keppel FELS has previously built the *Maersk Explorer* and the *Safe Concordia* based on the two respective designs.

Upon delivery in the second quarter of 2010, the floatel will be the first to be equipped with DP3 capabilities, resulting in a safer, environment-friendlier, and more optimal and reliable unit.

The new generation *DSS20NS DP3* floatel will also provide operators with superior motion characteristics, high deck-load capacity, large open deck space, superior one-man cabin accommodation and recreation facilities, as well as ample office space, workshop and construction facilities.

CB Choo added, "This enhancement in design underscores Keppel's continued commitment in providing best-in-class solutions to meet our customers' needs. As the demand for advanced drilling and production equipment increases, technological innovation will sustain our long-term competitive edge.

"We will continue to invest in the research, design and development of products and processes that will help us meet the needs of the market."

Floatel was established in 2006 to build and acquire offshore accommodation vessels to support the expanding oil and gas industry.

Strengthening leadership position in FPSO conversions

Keppel's reputation in conversions makes it a much sought-after partner in today's tight market situation.

Since the start of 2007, Keppel Shipyard and Keppel Verolme have further strengthened their lead with four contracts from repeat and new customers – Prosafe Production, Single Buoy Moorings (SBM), Emas Offshore and Sevan Production AS (Sevan). *OffshoreMarine* reports.

The recent delivery of two FPSO conversion projects, *FPSO Polvo* and *Umuroa*, led Prosafe to award Keppel Shipyard another Gas FPSO conversion contract

Prosafe Production

Prosafe Production, a long-time customer of Keppel Shipyard awarded the yard a contract to repair and convert the 276,000dwt VLCC tanker, *M/T Navarin*, into one of the world's largest Gas FPSO units.

This award follows shortly after Keppel Shipyard successfully completed the conversion of two FPSO projects, *FPSO Polvo* and *Umuroa*, for Prosafe Production in February and March 2007 respectively.

Hugh Parry, President & MD of Prosafe Production, said, "In today's tight market situation, having a good and reliable

partner committed to a long term relationship is critical to structuring quality and high value-added solutions.

"I am pleased that we are able to partner Keppel Shipyard which is experienced, flexible and innovative. The yard is able to deliver on their promise of completion in accordance with the plan for each and every one of our projects with them."

Upon completion in 2008, the converted Gas FPSO unit will assume its nine-year charter with six consecutive one-year options, with Brazilian national oil company, *Petroleo Brasileiro SA* (Petrobras).



One of the world's leading owners and operators of FPSO and FSO facilities, Prosafe Production has in the last 10 years entrusted Keppel Shipyard exclusively to carry out the conversion of all their FPSO and FSO systems, totalling nine conversions and upgrading including this latest facility.

SBM

Keppel Shipyard's strength in complex conversions was evident when it secured its tenth contract since year 2000 from SBM, one of the world's largest owners and operators of FPSO and FSO facilities, in April 2007.

The conversion of the 268,865 dwt VLCC (previously *FSO XV-DOMY*) is expected to be completed in the third quarter of 2008.

When completed, the facility can produce up to 100,000 bopd, and has a storage capacity of about 1.6 million barrels of oil.

The FPSO facility will be leased to a consortium operated by Shell for the development of the BC-10 field in the Campos Basin. This field is expected to be one of the key milestones in the commercialisation of heavy oil in Brazil's deepwater.

Emas Offshore

The third contract is for the conversion of a 127,533MT shuttle tanker into an FPSO for Emas Offshore.

To be named *LEWEK FPSO 1*, the FPSO is expected to be converted by mid-2008 for deployment in the Gulf of Thailand.

Leveraging its global network of yards, Keppel Shipyard will carry out the overall project management and completion of the FPSO including fabrication and



Keppel Shipyard will convert the 268,865 dwt VLCC, *FSO XV-DOMY* (centre), for SBM

installation of flare tower. Resources of sister yard, Subic Shipyard, will also be utilised to undertake repair and refurbishment works and part of the conversion.

Sevan

In The Netherlands, Keppel Verolme continues to strengthen its relationship with customer, Sevan Production, having secured a contract to outfit its second FPSO unit, *Sevan Hummingbird*.

This contract award follows the successful delivery of *SSP Piranema*, the first stabilised platform unit by Keppel Verolme in January this year.

When operational in end-2007, the *Sevan Hummingbird* will be capable of an oil processing capacity of up to 30,000 bbls/day and a water injection capacity of up to 20,000 bbls/day. The unit is scheduled for operation in the Chestnut field in the central North Sea for two and half years.

Derrick-lay barge for Petrobras

Keppel FELS Brasil secured a contract with Petrobras Brasileiro SA (Petrobras), Brazil's national oil company, for the repairs and upgrade of *BGL 1*, a 122-metre derrick-lay barge.

The scope of work comprises detailed engineering, pre-fabrication of helideck, drydocking, special survey and the installation of six new thrusters and DP Control System (OFE). It also includes the installation of the owner's supplied pipe-laying equipment and the upgrading of the living quarters.

Upon completion in May 2008, *BGL 1* will be able to undertake deepwater construction support, the installation of mooring, subsea structures and pipelines.

PV DRILLING I completed record two months early



From left – CH Tong; Tran Ngoc Canh; Vietnam Vice Minister for Trade, Le Danh Vinh; Singapore Minister Lim Hng Kiang; Vietnam Vice Minister for Industry, Do Huu Hao; CB Choo and General Director of PV Drilling, Do Van Khanh

Keppel FELS defied the odds of a bustling yard to complete *PV DRILLING I* two months ahead of schedule.

This is a record time in years.

The KFELS B Class jackup rig was delivered to PetroVietnam Drilling and Well Services Joint Stock Company (PV Drilling) on 7 March 2007.

The early delivery has enabled the KFELS B Class jackup rig to start work ahead of time in

Offshore Vietnam for Hoan Vu Joint Operating Company. *PV Drilling I* is the company's first newbuild jackup.

During the naming ceremony at Keppel FELS on 8 March 2007, CB Choo said, "To deliver a rig two months early during this very busy period in the market is remarkable. It demonstrates the strong core values and close collaboration of both our companies. We have developed a strong working relationship characterised by teamwork, flexibility and mutual understanding."

Tran Ngoc Canh, President of Vietnam Oil and Gas Group, added, "This is not the first time we have co-operated with Keppel FELS which has proven that it is one of the most capable rigbuilding companies in the world.

"PetroVietnam and Keppel FELS enjoy a long-term relationship since we have had opportunities to work together in some key projects. The completion of *PV Drilling I* jackup rig two months before the contract deadline proves that PetroVietnam and PV Drilling had made the right decision to award the contract to Keppel FELS. This marks another milestone in the good relationship between PetroVietnam and Keppel."

Significantly, this feat was also accomplished without lost time incidents in over 2.5 million manhours.

At group level, Keppel O&M's commitment to safety saw their 10-year low Accident Frequency Rate of 1.73 for the Group's Singapore yards in 2005 further improved to 1.20 in 2006.

Lim Hng Kiang, Singapore's Minister for Trade and Industry, who graced the

ceremony, said, "Keppel FELS has cause to celebrate as they have again delivered a new rig on time and on budget. With over 1,000 people working onboard the rig at any one time, the company has done well in ensuring that every worker who comes to work goes home safe.

"Above all, I am told that its owner, PV Drilling, is pleased with the quality of this rig. I am glad that companies like Keppel are constantly innovating to develop new designs with new capabilities to meet market needs and stay ahead of competition."

PV DRILLING I is the 13th KFELS B Class rig delivered by Keppel FELS since its introduction in 2000. This demonstrates rapid market acceptance of a Singaporean design.

Customised to PV Drilling's specifications, *PV DRILLING I* can operate in water depths of up to 300 feet and drilling depths of down to 20,000 feet. The rig can accommodate up to 110 men and is readily upgradeable for higher drilling capabilities in water depths of up to 350 feet.



Celebrating the excellent partnership with a firm handshake are CH Tong, MD/COO of Keppel O&M (left) and Do Van Khanh, General Director of PV Drilling

Investing in Vietnam

"Vietnam is an important market to the Keppel Group," CB Choo said.

"Beyond the offshore market, Keppel Land has invested over US\$650 million in eight real estate projects while Keppel Integrated Engineering is undertaking two wastewater treatment plants in Vietnam," he continued.

On the bilateral ties between Singapore and Vietnam, Minister Lim said, "Singapore's strong ties with Vietnam go back a long way.

"Keppel FELS is a good example of a company that has been actively involved in Vietnam since the 1980s. In 1984, Keppel FELS built *Hoang Sa*, a 1,200-tonne floating crane. Later in 1988, it delivered Vietnam's first drilling rig, *Tam Dao 1*, for Vietsovpetro, a Vietnam-Russian joint venture.

"Vietnam's rapid growth and sound economic policies offer a conducive business environment for investments. The country is also fast becoming a key regional oil and gas exporter with over 600 million barrels of proven oil reserves.

"Singapore is happy to participate in and contribute to the growth of Vietnam."

Trade between Singapore and Vietnam rose by 8.64% to S\$11.3 billion in 2006, making Singapore Vietnam's fourth largest trading partner¹. Likewise, the Vietnamese market plays an important role in Singapore's economy. With S\$8.7 billion worth of exports in 2006, Vietnam is Singapore's 14th largest export market².

¹ Source: Vietnam Ministry of Trade

² Source: IE Singapore

First Scorpion rig delivered

Keppel AmFELS has delivered its first jacking drilling rig for Scorpion Offshore Ltd.

Offshore Courageous is the first of five jacking rigs that Keppel AmFELS is constructing for Scorpion Offshore. The other four rigs are *Offshore Defender*, *Offshore Resolute*, *Offshore Vigilant* and *Offshore Intrepid*.

Jon Cole, CEO of Scorpion Offshore, said, "The on-time delivery of *Offshore Courageous* is crucial to Scorpion Offshore's goal of providing superior solutions to our customers in the ultra-premium jacking market."

Ho Cheok Yuen, President & CEO of Keppel AmFELS, said, "Keppel AmFELS and Scorpion Offshore share a win-win partnership. The close collaboration and open communication between the teams are key factors that contributed to the success of the project."

"As with many shipyards worldwide, Keppel AmFELS is faced with high level of activities. The on-time completion of *Offshore Courageous* demonstrates our commitment to deliver on our promise through strong and effective execution of our projects."

Jon added, "Keppel AmFELS is the builder of choice for Scorpion Offshore. With their excellent track record in rig construction and our close working relationship, we have been able to minimise delays and cost overruns."



The second rig, *Offshore Defender*, was launched on 31 March 2007. The rig is now undergoing final outfitting, installation of drilling equipment and remaining leg sections and commissioning prior to the rig's delivery in October 2007.

The third, fourth and fifth rigs, *Offshore Resolute*, *Offshore Vigilant* and *Offshore Intrepid*, will be delivered progressively in 2008.

All five rigs are being built to the LeTourneau Super 116 design. With leg lengths of 477 feet, these rigs can drill wells of down to 30,000 feet in water depths of 350 feet. They are suitable for deep gas drilling in the Gulf of Mexico and can also be deployed anywhere in international waters.

Scorpion Offshore was founded in 2005 to own and operate state-of-the-art offshore drilling rigs.

Executing for success

The 225-metre long pipelay vessel was christened *Audacia* by its owner, Allseas Group, on 8 May 2007 at Keppel Verolme.

Previously a Panamax bulk carrier named *Geeview*, the vessel was converted into the dynamically positioned facility capable of operating in ultra-deepwaters of up to 3,000 metres. Apart from conversion works, Keppel Verolme's workscope included the installation of new engine rooms, thrusters, additional cranes and accommodation.

Harold Linssen, MD of Keppel Verolme, said at the ceremony, "The execution of this conversion project was unique as it was based on the two companies' ambitions to participate and cooperate as one team.

"For more than a year, both the Keppel and Allseas project teams worked closely in managing and executing the job. We were able to combine the two companies' core competencies together to achieve this remarkable vessel."

Meanwhile, another milestone was achieved in the life extension project of semi drilling rig, *Blackford Dolphin*. Weighing over 850 tonnes, the drill floor and derrick were installed onboard the semi in mid-May 2007.

Owned by Blackford Dolphin Pte Ltd, a wholly-owned subsidiary of Fred Olsen Energy ASA, *Blackford Dolphin*, formerly *Ocean Liberator*, was contracted to Keppel for upgrading works after more than 30 years of service.



Audacia docks at Keppel Verolme's quayside



Harold Linssen, MD of Keppel Verolme, hands over an etching of *Audacia* to E. Heerema (right), President of Allseas Group



Keppel Verolme has completed the installation of the drill floor and derrick onboard *Blackford Dolphin*

In good time

With all hands on deck, projects around Keppel yards are making good progress. *OffshoreMarine* reports on some of the production milestones achieved.

Striking virtue

Keppel FELS lives up to its promise of on-time deliveries in the construction of *Virtue 1* when it struck steel on 5 January 2007, two months ahead of its scheduled date.

Virtue 1 is the first of two KFELS B Class jackup rigs contracted by the Jindal Group.

The ceremony was witnessed by CB Choo, Chairman & CEO of Keppel O&M, and V. K. Nagpaul, Project Head of Jindal Group.

V. K. shared at the event, "Keppel's track record speaks volumes. The yard has always completed projects on time or ahead of time, excelled in meeting customer's requirements and above all, maintained an excellent safety record.

"This early strike-steel ceremony attests to the right decision that the Jindal Group has made in choosing Keppel FELS as the builder of our rigs. Our choice of yard is also an indication of our faith in the quality standards of the world's premier rigbuilding yard."

Synergising resources

The keel for *West Ariel* was laid at Keppel Singmarine on 5 March 2007.

West Ariel is the fourth KFELS B Class jackup rig that Keppel FELS is building for Norwegian customer, SeaDrill.

Keppel FELS is drawing on the synergy of its network of shipyards to offer its customers unparalleled services at faster turnaround time. This intrepid method of construction saw both Keppel FELS and Keppel Singmarine partner in the construction of *West Ariel*.

Keppel Singmarine is to construct and assemble three sections of *West Ariel's* hull block before transferring to Keppel FELS for final assembly in the drydock.

On this method, Paul MacCallum, SeaDrill Project Manager, commented, "This innovative method speaks well of the engineering capability of the Keppel FELS team to ensure that the rig is being constructed to specification and delivered on schedule."

Laying foundations

Keppel Singmarine and Keppel Nantong have laid the keels of three AHTS vessels for Gulfmark Offshore Inc (Gulfmark) and two AHTS for Whitesea Shipping and Supply (LLC).

Built to prototypes designed by Keppel's technology arm, Marine Technology Development (MTD), the Gulfmark vessels are tailored to the owner's specific needs and requirements.



Construction begins for Gulfmark's AHTS in Singapore- Ray Minto, Gulfmark Offshore Superintendent; Harry Loh, Senior Project Manager of Keppel Singmarine and Jerome Chew, ABS Surveyor



At the keel laying ceremony of *West Ariel*



Keppel Nantong lays the keel for its first Gulfmark vessel in China



A successful launching of the second Ice-Class AHTS vessel

Said Hoe Eng Hock, ED of Keppel Singmarine, "The keel-laying of these vessels marks another significant milestone in the close partnership between Keppel and Gulfmark."

"The on-time keel-laying of the two Gulfmark vessels in Keppel Nantong, led by Lee Tai Kwee, is a demonstration of our management expertise in transforming a dormant shipyard into active production."

Keppel Nantong has also laid the foundation for two AHTS for Whitesea Shipping and Supply (LLC) on 13 April 2007.

These two 62-metre AHTS are in a series of five that Keppel is constructing for Whitesea. The two vessels will be delivered in August and October 2008 respectively.

Splashing start

Just three months after Ice-Class AHTS, *M.V. Svetlyy*, was delivered to Russian customer LUKOIL-Kaliningradmorneft (LUKOIL), her sister vessel was launched by Keppel Singmarine on 2 April 2007.

The 60-tonne bollard pull AHTS vessel is jointly designed and developed by MTD and Robert Allan Ltd of Canada. She will be able to operate in cold weather conditions of -20°C and in ice thickness of up to 70 cm. The vessel is expected to be completed in June 2007.

Keppel Singmarine is also constructing another three vessels for LUKOIL – a multi-purpose ice-breaking supply vessel, a multi-purpose auxiliary ice-breaker and a floating storage offloading unit.

On time every time for ENSCO

Outstanding project teams. Strong partnership. Open communication. Excellent teamwork.

These qualities combined, ensured the *ENSCO 108* was delivered on schedule, within budget and with zero lost time incidents to ENSCO International Inc (ENSCO).

ENSCO 108 was named at Keppel FELS on 24 March 2007 by Lady Sponsor Marcia Hunzeker, wife of Russ Hunzeker, Drilling and Completions Manager of BP Tanguh.

On this outstanding achievement, CB Choo said, "The construction of *ENSCO 108* was a true mark of the efficiency and precision in project design, management and execution.

"This 'win-win' relationship did not happen overnight. It was developed over many years and numerous projects that Keppel and ENSCO have undertaken together. We are truly proud of the deep personal relationship we share with ENSCO at all levels in both our companies."

Built to Keppel's proprietary KFELS B Class jackup rig design, *ENSCO 108* is the ninth that Keppel FELS has designed and built for ENSCO to-date. The rig has departed the yard in April on her maiden assignment in Indonesia for BP.

CB Choo added, "ENSCO has been a tremendous supporter of our proprietary designs. We are very honoured that ENSCO has entrusted us time and again with delivering some of the most advanced premium offshore rigs in their fleet."



Team power at Keppel FELS

Dan Rabun, President and CEO of ENSCO, said, "All of our construction projects remain on time and within budget, and the Keppel FELS's shipyard personnel and our construction management teams are to be commended for managing very well through this robust market at a time when others are encountering difficulties.

"*ENSCO 108* is an excellent rig tailored to our specifications. We are confident that this specialised rig will serve our customers well and will contribute to another record year for ENSCO in 2007."

In addition to building premium jackup units, Keppel FELS has also been tasked by ENSCO to construct three new highly specified ENSCO 8500 series ultra-deepwater semi. These are an integral part of ENSCO's strategy to expand its deepwater capabilities.

Dan continued, "The deepwater market is growing in importance to ENSCO, and we are actively looking for additional

opportunities to increase our presence in this domain.

"Our three semis are designed to drill in water depths of up to 8,500 feet and can be readily extended to 10,000 feet. They will provide a cost-effective deepwater drilling solution for our customers, and expand ENSCO's deepwater capabilities.

"We firmly believe that our long-time partners at Keppel FELS will deliver these milestone projects to our highest satisfaction."

Affirming Dan's remarks, CB Choo said, "We will continue to deliver excellent projects, on time and within budget every time to ENSCO."

Delivery for the three semis are slated for the second quarter of 2008, first quarter of 2009 and late 2009.

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



Woman in charge – Lady Sponsor Marcia Hunzeker at the helm of ENSCO 108

ENSCO, a legacy of credibility

Carl Thorne, founder of ENSCO, retired in May this year. As he handed the baton to Dan Rabun, the stately gentleman spoke of his amazement and gratitude for the help, support, confidence, trust and friendship that Keppel has extended to ENSCO.

He singled out CB Choo and Tong Chong Heong (CH Tong), MD & COO of Keppel O&M whom he has known for the last 30 years.

“I have known CB Choo and CH Tong long before ENSCO was formed. During those 30 years, we have done a great deal of businesses together, much of it from nothing but our word and handshake.

“In the past 12 years, ENSCO has awarded the Keppel O&M Group contracts for some 22 remedial jobs and some 12 construction projects, with a total cumulative project cost of some US\$4.5 billion. To the best of my knowledge, Keppel has never exceeded the budget nor been late. It would be impossible to convey to you how important this record has been for ENSCO financially and operationally.”

He expressed that both he and Dan valued this partnership with Keppel FELS. It is a partnership which, in his word, is “based on mutual trust, confidence, friendship and benefits.”



Carl Thorne (middle) is a long-time friend of Keppel

For ENSCO, he said, “The best relationship is based on credibility. It is of primal importance to understand and appreciate the values of your friend. To all our ENSCO partners, I can assure you our best.”

CB Choo, on his part, commended the wise businessman for his leadership. “Carl has done an excellent job in creating shareholder value in the last 20 years. He has built up a strong team at ENSCO and has established solid rapport with all their customers.”

To commemorate his and CH Tong’s friendship with Carl, CB Choo presented their old pal a painting of Changi Beach drawn by Singapore’s renowned water colourist, Ong Kim Seng.

Continued on page 14 ►

◀ *Continued from page 13*

CB Choo said warmly of the man he has come to respect, "I hope this painting will remind Carl of his friends in Singapore."

Speaking of Dan, CB Choo expressed confidence that ENSCO will continue to thrive under his leadership.

He added, "Dan, you can be sure that Keppel will continue to stand alongside ENSCO. We remain committed to our promise of delivering excellent projects on time and on budget, and safely every time. We look forward to furthering our win-win partnership and deepen our invaluable friendship."

Venturing into new frontiers

ENSCO convened the 'Deepwater and Newbuild Rig Symposium' and a tour of Keppel FELS's yard in Singapore from 22-23 March 2007.

The seminar was timed with the christening of its latest newbuild jackup rig, *ENSCO 108*.

The symposium was well-attended by US analysts and investors, which underscored market confidence in the

strength and potential of the deepwater floater market.

Keppel FELS was one of several major companies including National Oilwell Varco (NOV), Hydril and Regency Steel Asia represented at the conference.

In his keynote address, Dan noted that to deliver a new rig on time and within budget in this robust market called for greater co-operation among drilling contractors, shipyards and equipment vendors. "If any party misses a deadline, the rig would be in jeopardy for late delivery and cost escalation," he said.

According to market surveys, the existing global deepwater fleet of 7,500-foot water depth and above has been fully contracted through 2007, and for most of 2008. A significant number of the deepwater rigs currently under construction have also been committed upon delivery.

Speaking on the outlook of the industry, Michael Chia, ED of Keppel FELS, shared that the current slowdown in order flows would give the market time to absorb the large number of new rigs to be delivered over the next few years. This, however, does not ebb demand for new rigs, because a large portion of the rigs worldwide is also ageing.

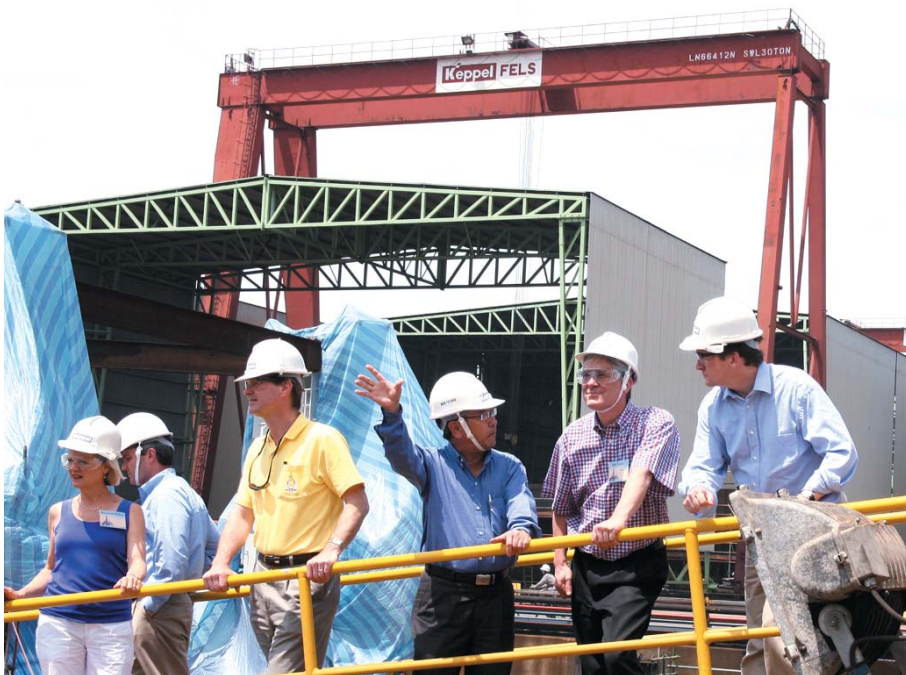
For CEO of NOV, Peter Miller, a company which designs, manufactures and sells equipment and components used in oil and gas drilling and production, the outlook of the rig building industry was still bullish. He predicted that the industry would continue to see orders for new rigs being placed. The trend is likely to be consistent, that when one rig is shipped out, another will be ordered.

Charles Jones, COO of Hydril Company, which supplies drilling equipment products, expected the growth of deep and high pressure drilling to be sustained as the search for hydrocarbons ventures into deeper waters.

Summing up the investors' visit to Singapore, Richard LeBlanc, VP of Investor Relations at ENSCO, said, "Feedback from the investment community on the yard tour has been very positive. Many were able to visit other shipyard facilities while in Asia, but were particularly impressed by the level of activity and efficiency at Keppel FELS's Pioneer yard."

Concurring, David Smith, analyst at JP Morgan Securities in Texas, said, "I was struck by how efficient the Keppel yards are in terms of the speed and scale of construction that occurs in a relatively compact area. The guided tour by its management provided insights that added depth to the overall experience.

"I believe participants gained a greater awareness of the complexity and challenges inherent in rigbuilding as well as an appreciation of the relationship between Keppel and its customers."



CH Tong led Dan Rabun (second from right) and US analysts on a tour around the yard

Excellence at Keppel Nantong

One and a half year ago, the 16-hectare site where Keppel Nantong Shipyard sits was a sleepy address with only a few contractors and a jungle of trees at the main gate.

Today, it is looking very sharp, and building 14 medium-sized vessels. Two of them are ready for delivery.

The trees, which are precious commodities, have been transplanted to different parts of the yard to beautify the otherwise concrete looking premises.

It is no wonder that Keppel Nantong Shipyard was awarded the Industrial Excellence Award for 2006 by the Nantong Municipal Government.

This annual award recognises outstanding enterprises which are forward-looking and making significant contributions to Nantong's economic development.

Held on 1 March 2007, the annual awards ceremony saw only 20 companies receiving the awards among all the companies in Nantong, which has a population of eight million people.

Lee Tai Kwee, President of Keppel Nantong Shipyard, said, "This award is testimony of the efforts and resources that we have put in to establish and build up the capabilities of our yard.

"Keppel Nantong remains committed to delivering quality products and services on time and within budget to our valued customers. With our plans for further expansion in time to come, we will certainly continue to contribute to Nantong's economy."

Vessels under construction at Keppel Nantong are well on-track



Boost for specialised shipbuilding

Keppel Singmarine will build a repeat of its first vessel for Seaways International which is based in the Middle East.

Due for delivery in the fourth quarter of 2009, the AHT will have 100-tonne bollard pull with additional equipment and DP 2 system.

Meanwhile, Keppel Nantong Shipyard has received an order for the construction of

three 65-tonne twin-screw ASD tugboats from Keppel Smit Towage in April 2007.

These vessels are of the proprietary MTD 3265ST design developed by Keppel's technology arm, Marine Technology Development (MTD). They are expected to be delivered between third quarter of 2009 and first quarter of 2010.

Keppel Smit Towage also bought two units of 45-tonne bollard pull tugboats

from Keppel Philippines Marine, Inc (KPMI).

These two boats are currently under construction at Keppel Batangas Shipyard and Keppel Cebu Shipyard in the Philippines and are expected to be completed by the third quarter of this year. KPMI also delivered two similar tugs to Maju Maritime Ltd, a sister company of Keppel Smit Towage, in 2006.

Nurturing a safety culture



Safety gives a boost to excellent partnership

Keppel Shipyard launched its Safety Leadership Programme (SLP), aimed to ensure safety practices are built into everyday work processes, on 27 April 2007.

This is the latest initiative by the yard to achieve an incident-free work environment and to nurture a safety culture.

Nelson Yeo, ED of Keppel Shipyard, said at the launch, "Supervisors have direct contact and strong influence on changing workers' behaviour. The Safety Leadership Programme will also equip supervisors with effective observation and intervention skills.

"With these skills, supervisors will be able to coach and encourage workers to carry out their tasks in a safe manner."

There are above 10,000 workers working at Keppel Shipyard daily and these workers are managed by supervisors.

Customers and partners, sub-contractors and union members witnessed the launch, graced by Ho Siong Hin, Singapore's Commissioner for Workplace Safety & Health of the Ministry of Manpower.

Safety is a fundamental business practice not just for Keppel Shipyard. It is upheld across the entire Keppel Group. Parent company, Keppel Corporation, has set up a Board Safety Committee to facilitate a common discussion platform for safety-related matters.

Group companies have also implemented the practice of safety as the first item on the agenda for their board meetings. Keppel Shipyard has taken this a step further by ensuring safety is the first item on the agenda for all its operations meetings.

Committed to creating a safer and healthier workplace, Keppel Shipyard's SLP is a further enhancement of its Safety Plus Programme introduced in 2002. As safety involves the partnership and ownership of all stakeholders, the company also introduced the Subcontractor Stewardship Programme. It has also successfully encouraged workers, with the support of workers' unions, to set up the Workforce Safety Council and Contractors's HSE Watch Groups.

Its customers such as ExxonMobil, SBM, Shell, Prosafe, Woodside, Petrobras and many others are also actively involved in the yard's safety programme. For instance, ExxonMobil and SBM are onboard Keppel's Safety Steering Committee.

Innovation for safe work practices...

At Keppel Shipyard, the desire for safety at the workplace drives employees to be innovative. Several safety innovation projects were conducted and put to the real tests.

The electrical continuity and polarity tester

In the yards, connections in switchboards or extension cables must be checked for correct polarity and continuity to prevent electrical hazards.

With the usual method of equipment testing, there was a higher chance of mistakes occurring. To solve this problem, Keppel Shipyard's (Gul) electrical department designed the electrical continuity and polarity tester.

The box-shaped device uses light and sound to test the polarity and safety of cables or wires attached to it. The team received the Gold award from the Association of Singapore Marine Industries (ASMI), Ministry of Manpower (Marine Section) for this project and has since registered for a patent with the Intellectual Property Office of Singapore (IPOS).

The Power Rail Detector

Traditionally, when a leakage in electricity flow was reported, the Plant and Maintenance Department had to physically check the power rails that run along the drydock. It was both a time-consuming process and officers risked direct contact with exposed live wires.

With the "Power Rail Detector", officers run the device along the power rails, which beeps automatically when a leakage is detected. This innovation won the Gold award at the 11th National Safety Innovation Convention (SIT).

Hull Structure Cable and Hose Overhead Bridge (CAHOB)

Hoses and electrical cables are commonly used for various processes in all shiprepair, conversion and offshore projects. Three methods, mainly, the "S" hook, the staging hanger and arches were used to confine cables and hoses.



Ho Siong Hin (right) tests out one of Keppel Shipyard's safety innovation projects

CAHOB is a unit that comprises bridges and arches designed innovatively to arrange and separate cables from hoses. It is especially useful onboard and in fabrication areas, and also enhances safety of the working environment. This innovation also received an award from ASMI in 2006.

Spreading the message...

Keppel Batangas recently declared March as its Fire Safety Month to heighten awareness about risks of fire at the workplace. This was because summer in the Philippines means sweltering heat of the sun, and with that, the higher risk of fire.

The initiative was part of Keppel Batangas' Total Quality Programme (TQP) launched on 1 March 2007 by the Health, Safety and Environment (HSE) department. Messages of fire safety embellished lively and colourful vehicles.

"The shipyard is committed to ensuring a safe working environment. This exercise will definitely help raise the awareness of our personnel about fire hazards," stated Kok Boon Heng, President of Keppel Batangas Shipyard.

Continued on page 18 ►

◀ Continued from page 17

Guarding safety in Keppel Batangas Shipyard are these officers of HSE department



Barry Chia, Vice-President for Production, added, "The Fire Safety Month underscores the need to be vigilant not just during the month of March but also the whole year round. It is everybody's responsibility to follow safety procedures."

Bonuses for safety excellence...

Despite the current heavy workflow, Keppel FELS continues its quest for zero lost time incidents (LTI), earning itself accolades on various projects from customers who share the common goal of an incident-free work environment.

These projects received bonuses and awards for

their respective excellent safety records of manhours worked without LTI.

Lauding the Keppel FELS and Maersk Contractors (Maersk) project teams at the safety award presentation, Erik Madsen, Site Manager of Maersk, commended them for the achievement of more than six million manhours worked without LTI for the five Maersk projects currently under construction at Keppel FELS.

Said CH Tong, MD & COO of Keppel O&M, at the award ceremony, "We take occasions like these to reinforce the need to upkeep a safety culture across the group.

"Apart from taking personal care, every staff must be able to contribute to reducing risks if

United for safety – Keppel, represented by Senior Project Manager, KC Kwok (right) and Erik Madsen, Site Manager of Maersk Contractors



not eliminating them. This starts from the top and Keppel's management is the flag bearer for safety across the group."

At a separate safety award ceremony, Paul MacCallum, SeaDrill Management's Project Manager reminded everyone to guard against complacency, although the safety milestones gave cause to celebrate.

He said, "Safety and accident prevention is on-going and we should not become complacent because we have achieved this target. Let us unite and set our sight on 2.5 million manhours and to another ceremony like this!"

Safety achievements 1Q 2007

Project	Customer	No. of manhours without LTI
Maersk Semi No.1	Maersk	3,000,000
West Atlas	SeaDrill	2,000,000
Deep Driller 5	Sinvest	2,000,000
WilBoss	Awilco	1,000,000
Al-Zubarah	GDI	1,000,000
Maersk Jackup No. 2	Maersk	500,000

Perfecting a craft

Early delivery, within budget, superior quality and exemplary safety records are the results of excellent project management.

WilCraft, built to the KFELS B Class jackup rig design, is a fine example of this. The rig was delivered ahead of time to its highly satisfied customer, Awilco Offshore. WilCraft was officially named at a ceremony on 13 January 2007.

For a job well done, Keppel FELS received an *Excellent Performance Bonus* of US\$20,000 from Awilco Offshore, in appreciation of the dedication and contributions of the project team.



WilCraft project team delivers excellence

Keppel at the energy capital of the world

With a 25-year high attendance of over 67,000 and participation from 110 countries, the annual Offshore Technology Conference (OTC) in Houston, dubbed the 'energy capital of the world', was a resounding success.

From 30 April to 3 May 2007, Keppel O&M showcased its expertise in offshore rig construction, shiprepair and conversions, and specialised shipbuilding, as well as its global network of 20 yards which the group taps to optimise technology and construction capacities.

The Group was located within the Singapore Pavilion, which was fronted by the Association of Singapore Marine Industries (ASMI) and Singapore Maritime Foundation (SMF).

This year's OTC also saw participation from subsidiary companies, Keppel Verolme, Keppel FELS Brasil and FloaTEC, LLC.

Themed "Transforming the industry", OTC 2007 called for industry professionals to develop and improve technologies for the exploration of oil and gas in deeper waters and harsher environments.

In this respect, Keppel O&M is not resting on its laurels. Leveraging its core competencies and technology innovation,

Keppel O&M is building new growth drivers to expand its business portfolio of leadership businesses.

CH Tong shared, "We strive to be the

partner and provider of choice in our chosen business segments. We are going beyond designing and building structures to offer cutting-edge solutions for the offshore and marine industry."



Visitors at the Keppel O&M and Keppel Verolme booths



Toasting to five years of growth, customers, business associates and friends gather at the best OTC reception to celebrate Keppel O&M's birthday

Celebrating growth

The Keppel O&M Group celebrated its fifth anniversary of the integration of its global network of yards on 1 May 2007.

This year will also mark Keppel FELS, Keppel Singmarine and Keppel Verolme's 40th, 120th and 50th milestone years respectively. Keppel Shipyard, whose history dates back to 1859 when it was Singapore's first shiprepair yard, will also be commemorating its 40th year of incorporation next year.

At the Keppel reception, a much anticipated event at the OTC, CB Choo toasted to customers and partners for their continuous support, partnership and confidence in Keppel.

He said, "As we look back, it is heartening to see how we rode through the different business and economic cycles, and emerged much stronger and more resilient to grow beyond our present success in our chosen segments of the offshore and marine industry.

"Such success was not achieved overnight. In today's dynamic business environment, we need to forge win-win relationships with stakeholders to further enhance our value proposition to customers. We will continue to do so.

"We will also continue to foster in our people the core values that drive results and create a learning organisation. We endeavour to leverage technology and explore different alliances with trend-

setters to develop new growth platforms and provide greater value."

CB Choo also expressed gratitude all who played a part in the success of Keppel O&M. He shared, "To our business associates, partners, suppliers and vendors, thank you for working hard alongside us. I would also like to thank the various Government agencies and community leaders who assist and support our activities in the various communities where we work.

"My heartfelt gratitude to the Board of Directors, my Team members and all our employees who have worked hard to steer Keppel O&M to where it is today."

Continued on page 22 ►

Keppel celebrates five years with 300% increase in revenue

Keppel O&M has grown its revenue 300% since its inception in 2002.

In the last five years, Group revenue increased from S\$1.9 billion in 2002 to S\$5.7 billion in 2006. Attributable profit of S\$459 million was up more than 220% in 2006 compared to 2002's performance. To date, the Group has a net orderbook of over S\$10 billion, with earnings visibility into 2010.

In rigbuilding, Keppel O&M's offshore business has expanded from building four jackup rigs and one semi in 2002 to the construction of 28 jackup rigs, two mammoth deepwater semis production platforms and eight drilling semis in 2007.

In shiprepair and conversion, the Keppel O&M Group is currently servicing up to 10 major FPSO facilities while the specialised shipbuilding division is building around 30 Offshore Support vessels.

The Group has achieved breakthroughs in technology innovations, entered new markets and seized new business opportunities. Its

strategic network of 16 yards has grown to a network of 20 yards, serving customers in the Asia Pacific, Gulf of Mexico, Brazil, Caspian Sea, Middle East and the North Sea regions.

On the unprecedented growth, CB Choo said, "The Group has lived up to the expectations behind its creation. Our success is due to the support of our customers as well as the combination of strong market fundamentals and the strategic imperatives that led to the integration of our offshore and marine companies.

"Through the creation of Keppel O&M, we have seen that Keppel's position as a leader in the offshore and marine industry has been reinforced. Our global footprint has increased and most importantly, it allows us to make the best use of our resources to deliver world-class products and solutions that are required by our customers."

Looking ahead, CB Choo remarked, "The strong growth in the offshore and marine sectors is expected to remain robust over the next few years. There are increasing numbers of new entrants, while new oil and gas fields are being developed, particularly in harsher environments. National oil companies are expanding their roles. The challenges include environmental considerations, rapid development of new technologies, rising costs of infrastructure and services and a shortage of skilled manpower."

To meet the challenges of the changing landscape in the industry, CB Choo said, "We remain committed to our customers by executing our projects on time and on budget. We are also going beyond designing and building structures to offer cutting-edge solutions in line with new market requirements. Ultimately, our main aim is to be the partner and provider of choice in our chosen business segments in order to grow beyond today."

The Keppel O&M yards are bustling with activity as the company celebrates its fifth anniversary



CORE of growth

Technology advancement is vital to the long-term growth of the offshore and marine industry.

In this respect, the National University of Singapore (NUS) launched the Offshore Technology Research Programme on 22 March 2007. The programme will be hosted at the university's Centre for Offshore Research & Engineering (CORE), where Keppel O&M is a founding member.

To fund this initiative, the Agency for Science, Technology & Research, the Maritime Port Authority of Singapore and the Economic Development Board will grant a total of S\$10 million over three years.

In support of the effort, Keppel O&M and six other key industry players have signed a Memorandum of Understanding with

Launch of Offshore Technology Research Programme
22 March 2007
Guest-of-Honour
Mr Peter Ong
Permanent Secretary, Ministry of Trade and Industry and
Chairman, Maritime and Port Authority of Singapore



Sealing Keppel's commitment to R&D efforts is Charles Foo (third from right), MD (Special Projects) of Keppel O&M

CORE to undertake joint research projects in offshore and marine engineering to boost the competitive edge of the industry.

Prof Tan Chorh Chuan, Deputy President & Provost of NUS, said at the MOU signing, "This close collaboration with the industry is deliberate and critical. It poses researchers with real-life issues and questions which are of importance to the industry, and provides the impetus for knowledge generation which will benefit our partners."

CORE was established in October 2003 with the aim of promoting and coordinating R&D and manpower developments for Singapore's offshore engineering industry. It also serves as an excellent platform for companies to move beyond manufacturing and services to undertake more R&D activities.

It is also a sponsor of the Keppel Professorship which has been very active in both enlarging the knowledge base of the industry and raising the benchmark of professionalism.

Sharing knowledge for the future



Arne Hubregtse, President of MARIN, thanks Charles Foo for sharing his insights on maritime technology

Collaboration between companies and institutions of the Netherlands and Singapore is giving innovations in maritime technology a boost. Charles Foo, MD (Special Projects) of Keppel O&M, said this in a presentation he gave to industry experts in the Netherlands.

Charles was speaking at the symposium, 'Future Waves', organised by the MARIN (Maritime Research Institute Netherlands), which examined the future of innovation in hydrodynamics and maritime technology.

He discussed the growing trends of research and development of shiprepair, conversions, shipbuilding and rigbuilding in Singapore. He also shared Keppel O&M's technology strategy of a balanced approach for sustainable technology leadership in order to stay relevant to customers.

Recounting Keppel O&M's collaborations with Dutch and European companies or institutions such as MARIN, he shared that Singaporean companies can learn from The Netherlands's experience in moving up the business ladder by providing value-added jobs.

Sea Asia launches in Singapore



CB Choo and CH Tong expounding the qualities of the Keppel rig to His Excellency S R Nathan (centre)

Asia is a powerful force in global shipping. Its shipowners control more than 40% of the world's cargo carrying fleet, including more than 60% of the world's container fleet. However, when compared to its peers, Asia's voice in the international market is disproportionately small.

Aimed at promoting the voice of Asian leaders in the global maritime arena through a public platform for the projection of their views, Sea Asia 2007 is a major shipping conference and exhibition hosted by Singapore for the first time.

More than 7,000 participants from 40 nations attended the function. This included over 1,000 delegates and more than 250 exhibiting companies from 24 countries.

The three-day conference explored key issues such as the Asian voice in world shipping, ship finance in Asia, the LNG markets and marine insurance among others.

Lending full support to help promote Singapore as an International Maritime Centre at Sea Asia, Keppel O&M Chairman & CEO, CB Choo, chaired the opening conference session addressing 'The Asian Voice in World Shipping'.

"Asian shipowners are among the most dynamic and fast-moving players in the global maritime industry today. Shipping companies in this part of the world have to provide a united Asian voice within the global shipping community," said CB Choo, who is also a board member of the Maritime and Port Authority of Singapore and the Singapore Maritime Foundation.

Forging new ties – Nelson Yeo, ED of Keppel Shipyard (second from right) gets acquainted with guests at Keppel's cocktail reception

The exhibition cum conference was officially launched by His Excellency S R Nathan, President of the Republic of Singapore.

In his opening address, the President encouraged greater interaction between Asia and the world. He welcomed the presence of the international maritime organisations and industry players participating in Sea Asia. The President also extolled the Conference as an example of the international community actively engaging Asian players and seeking to understand the Asian perspective.

The global dialogue and exchange of ideas, which the Conference sought were brought to bear in the sessions on technical trends and the future of LNG shipping. Both sessions saw the active participation of Keppel O&M experts – Charles Foo, MD (Special Projects) and Tan Thiam Hock, Yard Manager of Keppel Shipyard (Benoi) respectively.

The high profile function culminated in an evening cocktail reception hosted by Keppel O&M on 3 April 2007. While it marked the end of a successful convention, the evening also set the stage for further camaraderie and future cooperation in the maritime industry.



Hosting international R&D panel

In April 2007, Keppel O&M hosted the Singapore's Maritime R&D Advisory Panel during its third meeting held in Singapore.

Sven Bang Ullring, Chairman of the Panel, who is also an Independent Director of

Keppel Corporation, the parent company of Keppel O&M, led an 11-strong international delegate on the tour.

Sven said, "Greater collaboration between research institutions and industry players is needed if Singapore is to succeed in

becoming a global centre for maritime research."

The panel focuses on tie-ups with industry players and educational institutions to refine R&D edge for Singapore.

Key industry figures such as Oddvar Aam, President of the Norwegian Marine Technology Research Institute and Richard Mercier, Director of the Offshore Technology Research Centre in Texas, constitutes the panel.



Members of the third Singapore Maritime R&D Advisory Panel led by Chairman, Sven Ullring (seated third from right)

KOMtech establishes itself as a knowledge centre

Keppel Offshore & Marine Technology Centre (KOMtech), Keppel's new R&D centre, completed its first run of seminars aimed at promoting a systematic approach to managing research knowledge.

The seminars, which were held between 7 and 18 April 2007, also included a series of lectures on Arctic technologies conducted by Professor Kaj Riska of ILS Helsinki. He is also a Professor at the NTNU Centre for Ships and Ocean Structures and a consultant to Keppel

Singmarine on its ice-breaker projects.

Complementing Keppel's three existing technology units – Offshore Technology Development, Deepwater Technology Group and Marine Technology Development – KOMtech will support its business units to develop new solutions to address customer needs. It will manage, stimulate and conduct application R&D, products and process development and technology foresight.



Keppel continues to sustain growth through technology

Everyone a hero



EC pays tribute to CB Choo for making Keppel a world champion

“In Keppel, no one is a hero because all of us work in teams. That has been so since the day I joined Keppel in 1971. Together, we have learnt many lessons which remain deeply embedded in us.”

CB Choo, Chairman & CEO of Keppel O&M, humbly acknowledged this in response to a commendation by Keppel Corporation Executive Chairman, Lim Chee Onn, known to the entire Keppel Group as EC.

In a rare display of warm comradeship, the taciturn EC paid tribute to CB Choo in recognition of his 35 years of sterling service to the Keppel Group.

Said EC, “In Chiau Beng’s 35 years with Keppel, he has gone through the ups and downs of the businesses, but on each occasion, he has emerged much stronger, more competitive and much more successful. This, to me, truly reflects the leadership Chiau Beng has provided not only to Keppel O&M, but to the whole Group.

“In the past seven years, from the time I became Chairman in 2000, Chiau Beng has shared the challenge of repositioning and reinventing the Group together with all of us. We do so with the hope that all our SBUs will be more fighting fit, better able to capitalise the opportunities and ready to meet challenges ahead.

“I mentioned previously that Keppel FELS, from its humble beginnings in 1971 when Keppel acquired the company, has grown to become a world champ. And more importantly, it has made Singapore a world champ! There are very few such companies that can claim this position, and Keppel Corporation, through Keppel O&M and Keppel FELS, is one of them. For that, I would like to thank Chiau Beng for his contributions and his commitment.”

On that note, EC presented a gold award to CB Choo. On receiving the award, CB Choo credited his accomplishments to his strong team of management and colleagues. He said, “My success is due to all my dependable teammates, especially CH Tong, Sit Peng Sang, Charles Foo, Chee Jin Kiong, Michael Chia, Nelson Yeo, Hoe Eng Hock and many others. Thank you all for your support.”

CB Choo is also the Senior Executive Director of Keppel Corporation. He is also the Chairman of Singapore Petroleum Company (SPC), which is 45% owned by Keppel Corporation.

May Day awards

From the CEO to its workers, Keppel Offshore and Marine (Keppel O&M) received May Day awards from the National Trades Union Congress (NTUC) for their efforts in promoting labour relations.

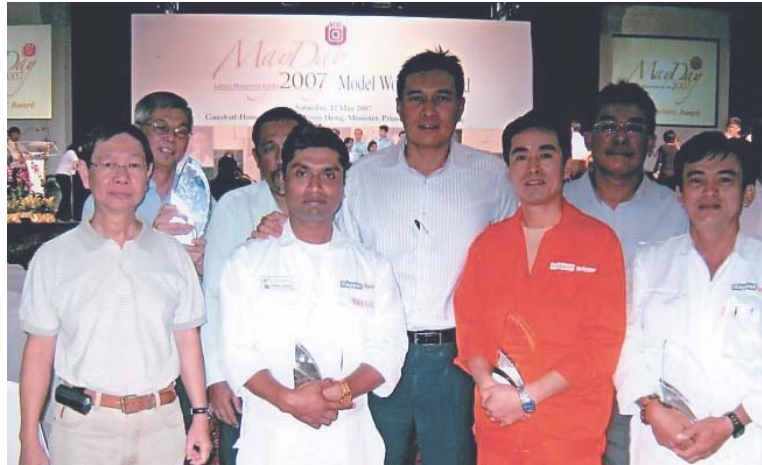
CB Choo was conferred the Medal of Commendation (Gold) for his tireless commitment in building a strong union-management relationship as well as in enhancing workers' employability,

The NTUC recognised his contribution in achieving union membership of 80 per cent for the bargainable workforce in Keppel O&M. Under his leadership, Keppel O&M embarked on various NTUC-initiated programmes such as the ASMI Super V Programme which re-trains and re-employs older workers.

CB Choo said, "Keppel's greatest asset has always been our people and it is important that we continuously provide them career development opportunities even as they continue to grow with us. Our training programmes are designed to equip our employees with lifelong skills and a global mindset. We have built a harmonious relationship based on strong core values and trust."

Three other Keppelites were also recognised on the same May Day celebration. They received the Model Workers' Award from Lim Boon Heng, Minister, Prime Minister's Office, on 1 May 2007. They were selected for their excellent work performance as well as exemplary attitudes towards work challenges, skills development and re-training opportunities.

Fang Jian Bin, a Supervisor (Machinery) at Keppel Shipyard (Benoi), first joined Keppel Hitachi Zosen Singapore in 1996. A Chinese National, he proved his worth through hard work, dedication and commitment and rapidly rose to the rank of Trainee Supervisor in 2001 and to Supervisor in 2007.



Assistant Section Manager, K Silvarajoo, described Fang as someone who always completes work assigned to him on time and accurately. His forthcoming nature sees him providing innovative solutions and being quick to share his knowledge with his colleagues, earning their respect and trust.

Mohammad Bellal Hossain, a Technician (Plant & Maintenance) with Keppel Shipyard (Benoi), started as a Machinery Fitter before rising through the ranks to become Trainee Supervisor and Technician. He received the Best Supervisor award for his department in 2005 and was Keppel O&M's Best Award Recipient in 2006.

His Section Manager, U San Lwin, commended him for his good leadership capabilities and willingness to impart knowledge and skills to his juniors.

Bellal strives to improve himself academically and works hard to juggle between work and pursuing an Advanced Diploma course in Ngee Ann Polytechnic.

Chung Moy Heng, a Supervisor with the Piping (Junior) department at Keppel Shipyard (Gul), was previously awarded the Best "Take 5" Supervisor of the month for his efforts in promoting safety.

In addition, he contributed some significant suggestions to improve the company's productivity and safety standards via various productivity campaigns such as Keppel Shipyard's Innovation Quality Circles (IQC) convention.

Mohammad Bellal Hossain (second from left) and Fang Jian Bin and Chung Moy Heng (right)

Tay Kim Hock is appointed ABS Member

To promote the security of life, property and the marine environment through classification and related services for ship and marine structures. That is the mission of the American Bureau of Shipping (ABS).

Tay Kim Hock, President & CEO of Keppel FELS Brasil, is the latest to join the ranks of these international experts as a Member of ABS.

To achieve its aims, ABS nominates key industry personnel as Members to provide broad governance and oversight. Such involvement allows ABS a valuable means to be current with significant technical and safety-related developments, thus providing ABS an important support base for advancing its services.

Kim Hock will serve a five-year membership term ending April 2011.



Tay Kim Hock (left)

The ayes have it

The Keppel FELS Co-operative society (KFELS Co-op) held its 29th Annual General Meeting on 5 April 2007.

Chaired by Chor How Jat, GM (Operations) of Keppel FELS, more than 200 members turned up to approve the motions set out on the

Keppelites vying for prizes with a table game of "Musical Parcel"



agenda, including recommendations on the distributions of their net surplus.

In addition, the Co-operative announced some of its social activities for its members which included purchasing movie vouchers and corporate membership subscription to visit Sentosa Island and the zoo.

It was not all business however. There were games, entertainment and a much anticipated lucky draw to cheer the members. It was a night to remember as everyone went home a winner.

Since its establishment in 1978, the KFELS Co-op has been operating as a non-profit organisation, managing the yard canteens and re-directing surplus funds for the benefit of its members. In addition to annual social events organised for them, members also get to enjoy benefits that include annual rebates, dividend payments, grants, insurance cover, bursary and retirement awards.

Growing beyond in Kazakhstan

Keppel Kazakhstan's Apprenticeship Scheme, has in recent years, been contributing to the skills development of the people in Aktau, a seaport on the Caspian Sea. This is part of Keppel Kazakhstan's ongoing efforts to train and upgrade the skills of both its current and future employees.

OffshoreMarine finds out more about the Scheme with Saule Sharipova, Head (HR) of Keppel Kazakhstan.

What is the Apprenticeship Scheme?

Saule: This scheme originally commenced in Singapore as a structured programme to equip trainees with skills such as piping fabrication, welding, steel fabrication and marine electrical technology. The one-year scheme has enabled Keppel O&M's overseas yards to meet the respective local needs.

Keppel Kazakhstan had an on-the-job-training scheme when it commenced its operations in 2005. After many discussions held with the Managers and Production Superintendents, an upgrade of that scheme was deemed necessary as the offshore industry in Kazakhstan is still fairly new.

We felt that by creating an Apprenticeship Scheme, the locals would be able to get a real understanding of and exposure to the offshore industry, and be attracted to carve careers in it.

Were there any challenges to kickstart the scheme initially?

Saule: There were challenges at the beginning. Many meetings and discussions were held to ensure a consistent and structured framework for the scheme.

As the Apprenticeship Scheme was new and is still evolving, we monitored it closely together with the local Governor's office and the Mangistau Education Department, which jointly organised the scheme. Mangistau is the region where the shipyard is located.

How is the selection process and the scheme like?

Saule: Apprentices are appointed following a stringent selection process. These apprentices then undergo both theory and practical trainings at the local Mangistau Polytechnic College and at Keppel Kazakhstan yard.

Theory classes, conducted by Kazakh teachers who have more than 20 years experience in their chosen fields, make up 40 percent of the time while practical training takes up 60 percent. Safety is emphasised all the time.

Upon completion of the programme, apprentices are given nationally recognised certificates. About 70% of the student cohort is selected to join Keppel for further on-the-job-training in grinding, welding and cutting.

The on-the-job training is conducted by qualified Superintendents and Supervisors sent from Singapore. Apprentices are also assigned to mentors who supervise them and monitor their progress. They will not work on the actual projects at the yard until they qualify.

How many Apprentices have you trained till date?

Saule: We have 47 apprentices in our first batch and selected about 100 apprentices for our second cohort, which will start the programme in June 2007.



An apprentice gets trained in welding during the programme

What do you hope to achieve through the scheme?

Saule: We hope to have a successful scheme independent of operations which will be able to produce many well-skilled workers who will carve meaningful careers with Keppel Kazakhstan.

OffshoreMarine also spoke with Yeshmanov, Director of Mangistau Polytechnic College, who expounded on the merits of the scheme:

"Keppel Kazakhstan's Apprenticeship Scheme allows a non-professional youth to obtain trade knowledge, a nationally-recognised certificate and employment. The scheme also provides trainees with good opportunities to develop their professional skills, gain experiences and practical training at college as well as on-the-job-training in the Shipyard.

"The programme is aimed at creating a pool of skilled local staff like welders and fitters. We hope the scheme will be expanded to include other tradesmen such as mechanics, electricians, foremen, technicians in the future. We do appreciate what Keppel Kazakhstan is doing and look forward to an efficient long-term cooperation."

Innovation a way of life

The third Innovation & Quality Circles (iQC) Movement at Keppel FELS ended on a high note on 31 January 2007 with excellent results posted by all ten teams which participated in the National iQC Convention organised by SPRING Singapore.

The teams beat competitors at the national level and walked away with a Star, seven Gold and two Silver awards.

The ten teams were selected from 26 Keppel FELS iQC teams of various departments, which had participated in the annual Innovation Month launched on 15 August 2006. With ideas ranging from revamp of customer feedback surveys to design of reusable lifting pad-eyes to improvements in the purchasing and subcontract processes, the iQC has proven to be an effective platform for sharing of best ideas.

Commenting on the significant achievement, CH Tong shared, "This achievement demonstrates our commitment in living out our core values of innovation and continuous learning as we strive towards delivering value-added solutions for our customers."

Meet the Star – MINDS

To improve global engineering operations – that was what *MINDS*, the Star Award team, had in mind when they developed their project entitled A3MR², acronym for 'Automated 3D-Modelling Review & Report'.

Represented by the Keppel FELS' Engineering CAD section, A3MR² links the Keppel FELS' Global Engineering Management System (GEMS) with TRIBON, thus enabling real-time update of information across the different engineering offices in Mumbai, Bulgaria, China, and Singapore.

This creates greater precision, clarity, reliability, and clever engineering solutions that benefit customers.



Team MINDS believes that "innovation is the process of harnessing creativity to create new value through new products, processes, services and businesses"

Award	Teams	Project
Star	MINDS (Engineering – CAD)	To improve precision, clarity and reliability of 3D-design for efficient global engineering operations
Gold	SOLUTIONS (HR)	To improve the effectiveness of HR induction programme
Gold	H.O.S.T (Engineering Hull & Outfit)	The design of reusable lifting pad-eye
Gold	P-TEAM (Purchasing)	To improve the buying process (galvanised class 'C' pipes)
Gold	E-GENS 06 (Production – E&I)	Installation of bulkhead mounted panel
Gold	BRILLIANT IDEAS (Production - Facility)	Frequent breakdown of the brake repair set in gantry / EOT crane
Gold	GS3 (PE&P)	Electronic Profile & Bevel Library (EPBL)
Gold	IGNATIUS (HSE)	Improve the fire manifold
Silver	GBB (Production - Hull)	Reducing the time taken in the cantilever main beam fabrication
Silver	DYNAMIX (Production - Piping)	To minimise material wastage and manhours due to fabrication of temporary pipe spool

Core values debut in Subic Shipyard



Charles Yap shares the icons' rationale

It began with teasers in the form of posters placed in highly visible places. These posters were changed every week.

The second wave was a personalised invitation to the Unveiling Ceremony of the Keppel O&M Core Values by the management of Subic Shipyard and Engineering Works (Subic Shipyard).

The invitation included a letter signed by CB Choo, Chairman & CEO and CH Tong, MD and COO. The letter explained briefly the Keppel O&M Core Values and their importance to Subic Shipyard.

By the time the Core Values were launched on 7 March 2007, employees were already fully primed and ready to accept the Core Values as their own.

At the ceremony, Charles Yap, President & GM of Subic Shipyard explained the symbolic use of hands signs that depict the core values. He said, "Keppel Offshore & Marine works like a large family. Personal touch and harmonious relationships are key to our success. Moreover, our business depends on strong hands to carry out both the manual and specialised tasks. 'Hands' also symbolise harmony, productivity, unity and strength."

Later in the ceremony, employees were taught the "Subic touch" as department heads led them in making hand gestures to represent the core values.

Subic Shipyard was the first overseas yard to launch the Core Values, after the three overseas engineering offices in Mumbai, Shenzhen and Bulgaria.

Exercising core values in Shenzhen

On 24 March 2007, the 134 employees of Keppel FELS Engineering Shenzhen took teambuilding to a whole new level when they donned their Core Value

t-shirts to take part in an Outward Bound Training Course aimed inculcating Keppel O&M's core values in each employee.

Through five experiential Outward Bound Training activities, the employees were able to put the core values into practice.

After each activity, a facilitator explains how the Core Values helped participants complete each task successfully. These activities not only helped to unleash their potential, but also allowed them to get to know their colleagues and themselves better.



Employees at Keppel FELS Engineering Shenzhen play a part to make Core Values work

Brownsville lauds Keppel AmFELS

Supporting community development through social investment is important to Keppel as a way of caring and contributing to its stakeholders and the broader society.

For its strong efforts as a corporate citizen and community supporter, Keppel AmFELS was recently commended in a local paper advertisement by the Brownsville Economic Development Council (BEDC). The BEDC is a city governmental agency whose purpose is to attract and help sustain businesses in the community.

The President of the BEDC, Jason Hilts, lauded Keppel AmFELS as a world-class organisation that has become an integral part of the community. The commendation also acknowledges Keppel AmFELS's success as a corporate citizen.

Keppel AmFELS's strong emphasis on social responsibility has been realised through its consistent support towards community, educational and welfare organisations.

Representatives of the 'Million Dollar Yard' received the award from United Way



Since its establishment in 1990, Keppel AmFELS has worked to benefit Brownsville through the creation of engineering scholarships with the University of Texas at Brownsville (UTB) and the University of Texas at Pan American.

Keppel AmFELS partners UTB in a programme for students in the Drafting and Engineering departments to work and gain professional skills as apprentices. Working closely with several local high schools to develop and provide welder training programmes, Keppel AmFELS also provides job opportunities to thousands in the community each year.

Over the last seven years, Keppel AmFELS has also contributed more than a million dollars to improve the lives of families and children in Brownsville. This is done through United Way of Southern Cameron County (United Way), a reputable non-profit volunteer organisation that invests in programmes to help provide families and children with basic needs.

For this contribution, Keppel AmFELS was welcomed to United Way's Million Dollar Club at an appreciation luncheon on 27 April 2007. The shipyard is one of two contributors in Brownsville that has been conferred this distinction.

Besides donations from employees, Keppel AmFELS had also supplied manpower and logistical resources to help United Way during many of its fund raising events and activities.

In appreciation of the yard for its support, Nick Mitchell Bennett, Resource Director of United Way, said, "When the military needs advice on how to plan and organise the logistics required for moving and deploying thousands of troops fast, they should turn to Keppel AmFELS.

"During our fund raiser events at several towns in Brownsville, I was amazed at the speed Keppel AmFELS organises its people despite the workload in the yard. Thank you for your support over the last seven years!"

Tour of duty

Job rotation and professional development programmes are integral to Keppel O&M's human resources. In the past year, several key finance officers have been rotated across the Group's network of yards worldwide to gain greater exposure and empowerment with a global mindset.

Edmund Mah
Financial Controller
Keppel Shipyard



Edmund returned from Keppel AmFELS in May 2006 to assume the current position in Keppel Shipyard. Prior to his current appointment, between February and May, he was selected to attend the Wharton Financial Management Programme and the Wharton Executive Development Programme respectively.

Edmund joined Keppel in 1992 as a Management Trainee/Accountant and have worked his way through and up the various subsidiaries of Keppel O&M.

Jim Lim
Chief Financial Officer
Keppel AmFELS

Jim was formerly Financial Controller of Keppel Shipyard prior to taking up the position as Keppel AmFELS's Chief Financial Officer last April, taking over Edmund Mah. He is now responsible for the financial affairs of both Keppel AmFELS and Keppel O&M USA.

Jim started out at Keppel Shipyard as an Internal Auditor in 1978 and had previously been seconded to The Singapore Slipway & Engineering Company and Keppel Marine Industries in 1982 and 1987.

Wong Wei Kei
Vice President (Finance & Administration)
Keppel Nantong Shipyard



Wei Kei was posted to Keppel Nantong Shipyard in August 2006. He joined Keppel O&M in 2002 and was seconded to UAE Ajman-based Arab Heavy Industries for five years as its Finance & Administration Manager.

Ng Teck Mong
Treasurer/VP (Administration)
Keppel Cebu Shipyard



In April 2006, Teck Mong was posted to Keppel Cebu Shipyard Inc (Keppel Cebu) as its Treasurer/Vice President for Administration. He was previously with Keppel Shipyard for a year.

Tang Yang Nang
Finance/Administration Manager
Arab Heavy Industries (AHI)



Tang was with the Keppel Group for 12 years before he was posted to AHI in the UAE as Finance / Administration Manager in July 2006. He spent his first six years working for Keppel Eagle and the remaining six years with Keppel Shipyard

Jerald Lee
Chief Financial Officer
Keppel Verolme



In December 2006, Jerald became the CFO of Keppel Verolme after his tour of duty in Keppel Cebu where he stayed for almost four years. Jerald's first stint overseas took place in December 2001 when he was sent to AHI.

Gunnar Larson
Chief Financial Officer
Keppel Norway



Gunnar Larson joined the group in October 2006 as the Chief Financial Officer of Keppel Norway, assisting its President, Inge Oliverson. He has ten years of experience in the oil and gas industry.

Schooling about our yards

Keppel O&M is witnessing growing interest in the offshore and marine industry in recent years. In the last few months, the Group hosted several tours of our yards for a wide array of visitors. *OffshoreMarine* reports.

Customers' call

A delegation from Statoil Gulf of Mexico LLC and Woodside Energy (USA) called at Keppel FELS on 7 and 8 March 2007.

The team also wanted to see first-hand the progress of *Maersk semi no. 1* (project no. B280), a deepwater semisubmersible drilling rig (semi) currently under construction.

Maersk semi no. 1 is one of three units that Keppel FELS is constructing for Maersk Contractors (Maersk). All three semis are being built to Keppel's co-proprietary design, the MSC DTG DSS™ 21. When completed in 2008, Statoil and Woodside will lease the semi from Maersk for deployment in the Gulf of Mexico for four years.

The session saw an in-depth discussion on the progress of *Maersk semi no. 1* after a presentation on Keppel FELS yard. A much-anticipated tour around the yard was led by Maersk's Site Manager, Erik Madsen, and Keppel FELS Senior Project Manager, K C Kwok.

Apart from the three semis, Keppel FELS is also building another four jackups for Maersk.

Educators' wow!

Keppel is witnessing a growing number of visits from members of academia circles, both local and overseas, in recent years.

Some 40 Heads of Department from various Singapore primary and secondary schools as well as junior colleges visited Keppel O&M yards on 5 and 26 April 2007. These Heads are currently pursuing a Diploma in Departmental Management programme conducted by the National Institute of Education.

Cindy Lim, Group Human Resources Manager of Keppel O&M shared on the company's strategies in the face of global challenges. She also spoke about teamwork across different departments as well as Keppel O&M's approach to develop its human capital.

The yard tour was a treat for many who have never seen a rig. It has certainly deepened the visitors' understanding of the offshore and marine industry.

Cindy explained after the yard tour, "Many of our educators do not know about our industry. We hope that through this visit, they will realise that opportunities abound for anyone looking for an exciting long term career that will take them to places. This will equip them with the knowledge to encourage the next generation to join the industry."

Students' interests

They hailed from across the globe.

Student leaders from business schools worldwide toured the yard as part of their

Delegates from Statoil and Woodside get up close with the *Maersk semi no. 1*



Many of the MBA student leaders were eager to understand Keppel O&M



three-day Graduate Business Conference organised under the auspices of the Graduate Business Foundation.

A highlight of the visit was the forum where the 75 students learnt about the Company's businesses and strategies first hand from Keppel Management. Responding to eager questions from the students were Keppel FELS GM (Marketing) Jaya Kumar, Keppel Singmarine ED Hoe Eng Hock, Keppel O&M ED (Human Resources) Chee Jin Kiong, and Keppel FELS' Senior Project Manager, Keith Teo.

Adding to the long list of student visitors are 12 Iranian A*STAR scholars currently pursuing studies at the National University of Singapore and the National Technological University.

These students, many of whom are in their final year or have graduated recently, are from renowned Iranian universities including the Amir Kabir University of Technology, Isfahan University of Technology, Shiraz University, Sharif

University of Technology and Iran University of Science & Technology.

Hosting their visit on 17 April 2007 was CH Tong, who shared on Keppel O&M's strategy in meeting the needs of the global market.

After these visits, many of the students expressed an interest to pursue careers with Keppel O&M.

Daughter's nostalgia

Back in the 1950s, Cornelis Verolme, an owner of a shipyard in Holland, visited the then-President of Brazil, Juscelino Kubitschek, to negotiate the construction of an oil tanker. It was also then that the farsighted Cornelis made the decision to establish a shipyard in Brazil. In 1959, the Verolme Shipyard was founded and remained active until the 1990s.

In March 2000, the shipyard was bought by Keppel FELS and renamed Keppel BrasFELS.

Keppel BrasFELS paid tribute to the yard's founder on 9 March 2007 when his eight relatives visited the yard. After a presentation on the yard's history, the guests toured the yard where they saw first-hand the mammoth projects, P-52 and P-51.

Thanking Keppel for its efforts in continuing and expanding her father's vision, J. Rosenthal-Verolme, youngest daughter of the late Cornelis, shared, "I am very happy to see such an advanced shipyard. It is important to see that my father's dream, which is to help the community and the city of Angra dos Reis and to generate jobs, continues to be alive with Keppel BrasFELS."

Summing up the visit, President & CEO Tay Kim Hock said, "Today, BrasFELS is the pioneer in the offshore and marine industry in Brazil and South America. All these progress, initiated by Cornelis Verolme, are very important and it is good to know that we are giving continuity to a project that began as a dream and became a reality."

Armed with new insights, these educators are ready to share with the young the dynamic offshore and marine industry



Reliving the dreams of the late Cornelis Verolme



Around our yards

OffshoreMarine tracks works at various Keppel yards.

Philippines

Subic Shipyard and Engineering

Name : **MV "MOL THAMES"**
 Owner : New Asian Shipping Company
 Country : Hong Kong
 Type : Container Ship
 DWT : 59,056
 GRT : 50,628
 Period : 24 January to 16 March
 Scope : Drydocking, hull preservation, cargo holds upgrading, hatch covers blasting and painting, main engine survey and overhauling, main engine air coolers and fresh water heaters chemical cleaning, sea valves overhauling, boiler and exhaust gas economiser safety valves overhauling, cargo hold and engine room vent fan motors overhauling, bilge alarm installation, steel repair of hatch covers, ballast tanks and cargo holds.

Name : **MV "HANJIN RICHARDS BAY"**
 Owner : Hanjin Shipping Co
 Country : Korea
 Type : Bulk Carrier
 DWT : 149,351
 GRT : 75,752
 Period : 14 March to 8 April
 Scope : Drydocking, general survey and overhaul, hull preservation, cargo hold upgrading, reinforcement of water tight bulkhead in accordance with IACS URS 19, escape hatch modification IACS URS 26 in forecastle deck, engine room piping renewal, boiler

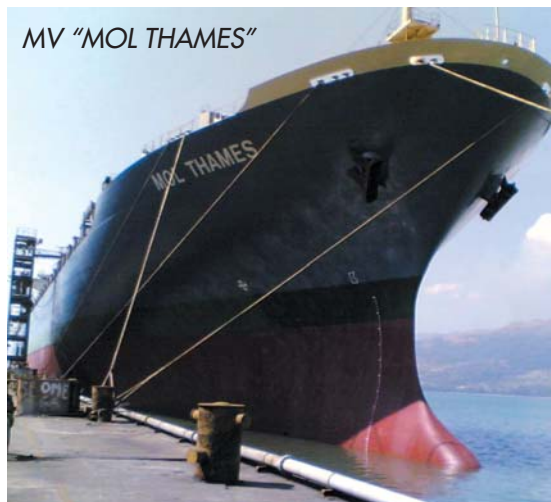
cleaning, propeller and tail shaft renewal, lifeboat quick release davit load test, provision, engine room crane and fuel oil davit crane to load test.

Name : **MT "ANAND SEA"**
 Owner : Link Marine
 Country : Singapore
 Type : Oil Tanker
 DWT : 247,000
 GRT : 131,259
 Period : 18 February to 14 April
 Scope : Drydocking, general survey and overhauling, hull cleaning and surface preparation, tailshaft survey / withdrawal, propeller polishing, deck repairs, gantry walkway platform repairs, main engine exhaust pipe repair, auxiliary boiler mounting valves overhauling, lifeboat floors and rudder blade posts repairs, lifeboat davit repairs

Keppel Cebu Shipyard

Name : **NOVA FRIESIA**
 Owner : Seatrade Groningen BV
 Country : The Netherlands
 Type : Reefer Cargo
 DWT : 5,839
 GWT : 6,568
 Period : 10 February to 14 April
 Scope : Drydocking, general survey and overhauls, major steel works, application of polyurethane foam, cleaning of FO double bottom tanks, upgrading of P&S water ballast tank, renewed ballast pipes, lifeboat davit repair

MV "MOL THAMES"



MV "HANJIN RICHARDS BAY"



NOVA FRIESIA



SUPERFERRY 5



MOL PROGRESS



CORE GARNET



Singapore

Keppel Shipyard Tuas

Name : **BADER III**
 Owner : Hijazi & Ghosheh Food Stuffs Co.
 Country : Jordan
 Type : Live stock carrier
 DWT : 26,762
 GRT : 36,387
 Period : 16 January to 10 March
 Scope : Design, installation and commissioning of new Austrial Marine Safety Authority (AMSA) power distribution system, installation and commissioning of CAT generators, design and modification of FO system, SW cooling system for AMSA generators, life boats overhaul davit and testing, modification of overboard drainage system, renewal of aluminum deck floor plates, repair of sheep house, tail shaft special survey, outboard seal and chrome liner renewal, sea valves overhaul, hull painting, hull special survey by UT thickness gauging and visual inspection

Name : **APL INDIA**
 Owner : E R Schiffahrt GMBH
 Country : Germany
 Type : Container
 DWT : 68,025
 GRT : 65,792
 Period : 17 February to 2 March
 Scope : Hull cleaning, blasting and painting, overhaul and inspection, repair of propellers, tail shaft measure wear down and

magnaflux taper end and renewal by bonding in-situ, overhaul of aft stern tube seal at workshop and renewal of seal, hatch covers, crack repairs, renew cell guides in cargo hold, tank top and bilge well, renewal of M/E exhaust gas pipe, safety valves overhaul and survey, electrical motors, overhaul 18 electric motors (7.5Kw to 330Kw), engine room switchboards cleaning, servicing and testing.

Keppel Shipyard Benoi

Name : **CORNELIA MAERSK**
 Owner : A P Moller
 Country : Denmark
 Type : Container Ship
 DWT : 104,410
 GRT : 91,560
 Period : 6 March to 19 March
 Scope : General Survey/Repairs

Name : **MOL PROGRESS**
 Company: Azalea Maritime BV
 Country : The Netherlands
 Type : Container Ship
 DWT : 74,453
 GRT : 74,071
 Period : 15 March to 28 March
 Scope : General Survey/Repairs

Name : **FRONT VIEWER**
 Owner : International Tanker Management Holding
 Country : Dubai
 Type : Bulk Carrier – Oil Bulk Ore
 DWT : 169,381
 GRT : 89,004
 Period : 7 April to 22 April
 Scope : General Survey/Repairs

Keppel Batangas Shipyard

Name : **SUPERFERRY 5**
 Owner : Aboitiz Jebsens Shipmanagement Inc.
 Country : The Philippines
 Type : Passenger/Cargo
 DWT : 3,682
 GRT : 11,638
 Period : 2 March to 8 April
 Scope : Hull cleaning, blasting and painting, wagon deck re-plating, piping works, 75 tonnes of steelworks

Name : **CORE GARNET**
 Owner : Core Maritime Corporation
 Country : The Philippines
 Type : Tanker
 DWT : 4,064
 GRT : 2,734
 Period : 22 January to 15 April
 Scope : Conversion from single to double hull tanker, hull cleaning, blasting and painting, installation of double hull/stiffeners

Keppel Group Newsbytes

Keppel Corporation reported a strong start to 2007 when it released its 1Q2007 results. Here are some highlights:

- PATMI improved 48% to S\$252 million compared to 1Q2006's S\$170 million.
- Earnings per share of 31.9 cents were up 48% from 1Q2006's 21.6 cents.
- Annualised ROE rose from 19.1% to 19.2%.
- Economic Value Added (EVA) increased S\$85 million to S\$160 million.
- Free cashflow of S\$149 million.
- Net gearing decreased to 0.20x from 0.24x.

Keppel Land has sold more than 95% of 350 units released in the first phase of *Reflections at Keppel Bay*. The average price achieved for the units sold is about \$1,900 psf with the highest price achieved at \$2,520 psf. About 40% of the homebuyers are foreigners.

Keppel Land, through its wholly-owned subsidiary, Harrisonburg, has entered into a joint venture (JV) with established Vietnamese property developer, An Phu Corporation to build prime waterfront condominiums in Vietnam on a 1.74-hectare (17,428 sm) site, yielding about 500 premier waterfront residences.

The total investment capital for the project is estimated at US\$80 million (approximately S\$121.6 million) and Harrisonburg will take up a 60% stake of the total registered capital of US\$24 million (approximately S\$36.5 million upon the issuance of the investment certificate and obtaining relevant government approvals).

Keppel Seghers is developing a membrane-based distillation concept to improve the economy and efficiency of the existing desalination technology for seawater and brackish water. Membrane distillation technology, or MemstillÆ, is potentially a more cost-effective

alternative to Reverse Osmosis (RO) desalination process, using only a fifth of the energy required by current reverse osmosis systems.

Eric Mun, Keppel Seghers' Head of R&D, said "MemstillÆ marks a significant step forward in our continuous efforts in research and development of sustainable and cost-effective solutions to meet increasing global demand for clean water."

Singapore Petroleum Company's joint venture with Chevron, Singapore Refining Company (SRC), has awarded a US\$81 million engineering, procurement and construction contract (EPC) to JGC Corporation for the revamp of SRC's hydro-desulphuriser.

Upon completion, SRC would be able to produce diesel that meets Euro-IV specifications. It will enhance SRC's diesel clean fuels capability and enable the Company to meet stricter diesel specifications when these are implemented.



Reflections at Keppel Bay continues to attract strong interest from local and foreign homebuyers.

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NAKILAT and Keppel team up to develop world-class shipyard in Qatar

Qatar Gas Transport Company Ltd. (NAKILAT) has joined forces with Keppel O&M to develop a world-class shipyard in the Port of Ras Laffan, Qatar.

This agreement, which was sealed through Keppel O&M's subsidiary, KS Investments, is a landmark partnership between NAKILAT, the world's leading transporter of LNG and Keppel, a global leader in the offshore and marine industry respectively.

The proposed shipyard will be part of the massive expansion of the Port of Ras Laffan in the Arabian Gulf, and is expected to begin operations in 2010.

Muhammad A. Ghannam, MD of NAKILAT, said, "In our negotiations and through visits to Keppel's shipyards in Singapore, we found the overall culture

of Keppel, their best practices and business operations to be a good fit with our vision for the new shipyard. Keppel has very high standards of professionalism and commitment to service excellence which we appreciate.

"Our vision is for the new shipyard to become a centre of excellence for the repair and maintenance of LNG carriers, thereby securing a strategically important link in the supply chain of natural gas from wellhead to consumer."

CH Tong said, "This business venture is in line with our 'Near Market, Near Customer' strategy to be close to our customers so that we can better serve them.

"We will replicate our proven management system in the new shipyard, and leverage the resources of our global

network of yards and commercial agents to ensure success of this joint venture with NAKILAT."

NAKILAT-Keppel Offshore & Marine Ltd, an 80/20 joint venture company (JVC) between NAKILAT and KS Investments respectively, will manage the design, construction and operation of the 43-hectare shipyard built on reclaimed land.

The new facility will be designed and constructed in accordance with best international practices. It will be suitable for the repair and maintenance of very large LNG carriers and a wide range of other vessels, as well as the conversion of tankers to FPSO and FSO facilities.

Qatar Petroleum (QP) will fund the reclamation of the land and construction of the yard's infrastructure, which include two drydocks, quays, buildings and utilities distribution networks. QP will lease the infrastructure to the JVC.

The JVC will fund the shipyard's mobile equipment, such as the floating dock, cranes and workshop machinery, and provide cash for operations.

The shipyard can be expanded for the construction of specialised small ships (such as offshore supply vessels), fabrication of structures for the offshore oil and gas industry (such as jackup drilling rigs, process modules and decks, jackets, wellhead decks and flare booms), as well as the fabrication of components for land-based petrochemical and industrial plant. The facility will also provide life-cycle support to all the markets it serves.



Sealing a firm partnership – (from left) Muhammad A. Ghannam, Nelson Yeo, ED of Keppel Shipyard, CB Choo and CH Tong